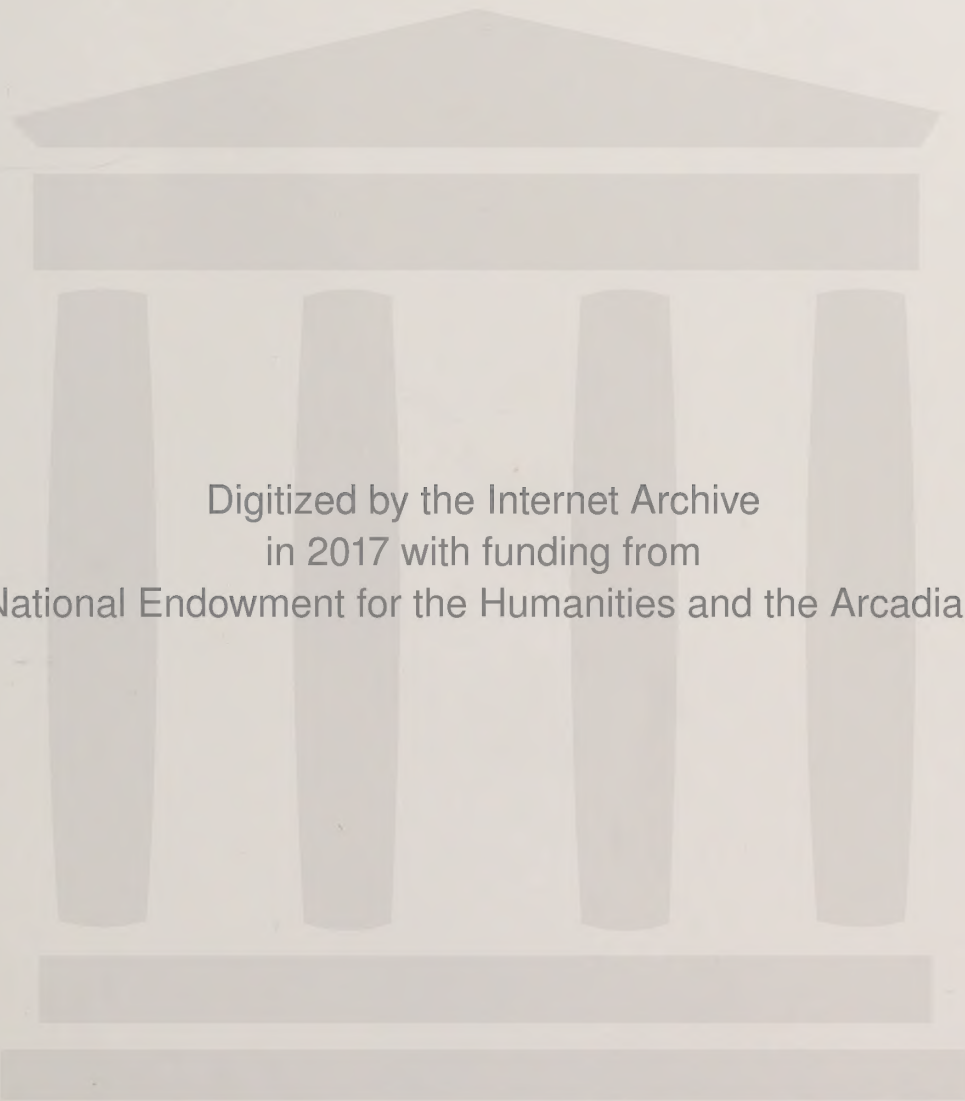


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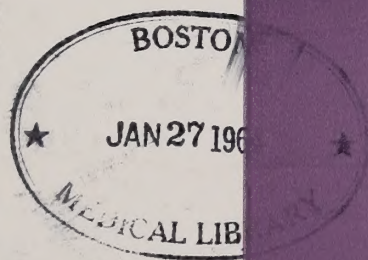
VIRGINIA

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MEDICAL MONTHLY

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JANUARY, 1964



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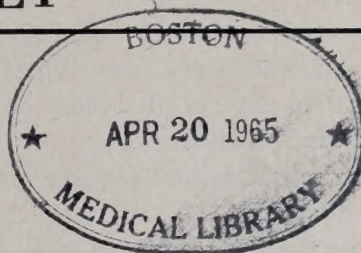
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Guest Editorial



The Virginia Rehabilitation Association

THE VIRGINIA REHABILITATION ASSOCIATION, a Chapter of the National Rehabilitation Association, was first organized four years ago. The organization meeting was held on January 30, 1959, at Baruch Auditorium, the Egyptian Building, Medical College of Virginia. Its first president was Dr. W. T. Sanger, Chancellor, Medical College of Virginia.

The VRA membership now totals slightly more than 600 persons. Approximately 340 of its members are professional members—representing physicians, rehabilitation counselors, therapists, social workers, nurses, administrators, and placement specialists. The remaining members are lay persons interested in rehabilitation of handicapped persons. Well over half of the professional members in Virginia are physicians.

Bylaws of the National Rehabilitation Association (NRA) permit the formation of special interest divisions within the Association to help meet the specific professional needs of its members. To date, only one such Division has been formed—the Rehabilitation Counselor Division. This group has already developed certification standards for Rehabilitation Counselors. In Virginia there are 58 Rehabilitation Counselor members.

The philosophical concepts behind the VRA organizational structure are many and varied, but all center around the concept of opportunities and responsibilities for the disabled persons of our State. Some of these concepts are:

- . . . that rehabilitation should prevent dependency whenever possible
- . . . that rehabilitation cannot serve its full purpose until rehabilitation services are available to everyone who needs them
- . . . that rehabilitation services should provide disabled persons the opportunities to reach their highest level of attainment
- . . . that professional rehabilitation personnel do not rehabilitate anyone—but instead, help them to rehabilitate themselves
- . . . that the bulk of disabled persons are unemployable, without rehabilitation services, as far as present employment practices are concerned

- ... that the many and varied professional disciplines and the many and varied agencies serving the disabled are partners—not competitors
- ... that any one person or profession is inadequately trained to “treat the whole man”
- ... that rehabilitation personnel must continue to grow professionally—must never become really complacent in their accomplishments—cannot afford to depend on “more of the same” when newer and better ways are available
- ... that effective rehabilitation requires constant self-analysis, stimulation and evaluation
- ... that effective rehabilitation requires qualitative and quantitative standards which assure a sufficient number of well trained persons and adequate facilities.
- ... that effective rehabilitation requires public understanding.

Inherent in the concept of our State association is the idea that rehabilitation is a process taking place in many settings, a process served by persons trained in any one of many professional disciplines. Although each of these professions would ordinarily have its own professional organization, there is a distinct need for a general rehabilitation organization to serve all of the professions in the rehabilitation family. This is recognition of need for close agency and professional relationships on a working level to ensure coordination and smooth continuity of service to the patient as he progresses in the rehabilitation process. This is an attempt to focus attention on the patient or service to the patient, and a sharing of knowledge by which all on the great rehabilitation team can improve their contributions to the benefit of the patient.

In this attempt the Virginia Rehabilitation Association is actively engaged in the following projects at the present time:

- ... the minimizing and elimination of barriers to the free mobility of disabled persons, in architecture, in public transportation, and elsewhere.
- ... in four areas of Virginia, the identification of the most pressing rehabilitation need in the area and the taking of a positive, constructive step in 1963 toward its solution.
- ... the selection of that Virginian having contributed most to the rehabilitation of disabled Virginians each year to receive the coveted R. N. ANDERSON award.
- ... communication of and about rehabilitation matters in our quarterly *Bulletin*, and in the planning and promotion of discussions on rehabilitation subjects.

KEITH C. WRIGHT
THADDEUS D. GABER

EDITORS' NOTE: Mr. Wright is Secretary of the Virginia Rehabilitation Association and is Professor in the School of Rehabilitation Counseling, Richmond Professional Institute. Mr. Gaber is President of VRA and assistant supervisor of Woodrow Wilson Rehabilitation Center.

Isometric Exercise

The Role of Brief Maximal Isometric Contractions in the Development of Muscle Strength

CHARLES P. BARNETT, M.D.
Danville, Pennsylvania

The strength of a muscle may be increased from 50% to 150% by isometric exercise. Here is an interesting discussion of this new method.

MUSCULAR CONTRACTIONS may be either isotonic or isometric. In the isotonic type the muscle contracts, shortens and at the same time elicits motion at the adjacent joint. All bodily movements, therefore, are isotonic. The act of walking upstairs is an isotonic exercise for the quadriceps femoris and gastrocnemius muscles. Repeatedly extending a weight overhead is an isotonic movement for the triceps. All games, sports and traditional exercises depend on isotonic contractions of muscles. In an isometric contraction, however, the muscle contracts but does not shorten and there is no movement at the adjacent joint. Carrying a suitcase involves isometric contractions of the muscles of the forearm and shoulder girdle, but there is no shortening of muscles nor motion of joints. Holding a weight extended at arms length is an isometric exercise for the deltoid. The classic isometric exercise is that of the Titan, Atlas, holding the world on his shoulders.

If one stands in a doorway and pushes upward against the jamb with the hands, this is an isometric contraction—there is neither shortening of muscles nor motion of joints,

although force is exerted. If, in pushing upward against the door jamb, one exerts maximal force for a period of 6 to 15 seconds, this is defined as a brief maximal isometric contraction. It is this type of contraction, or exercise, that has been widely studied by physiatrists and athletic coaches during the past decade.

Isotonic Contractions

Although isotonic forms of exercise have been indulged in since time immemorial, it is only within recent years that isotonic exercise, using heavy resistance (i.e. weights) has achieved status within the ranks of medicine in general and physical medicine in particular. The lifting of heavy weights as a tour-de-force is probably far older than the original Olympic Games. In modern times weight lifting has been formalized into a sport, albeit a sport at which both athlete and non-athlete tended to cast a jaundiced and depreciating eye. The disrepute of weight lifting was engendered, at least in part, by the physical culturists, cultists, faddists and body-builders who used heavy weights in order to develop muscles chiefly for the sake of display. Even athletic coaches and trainers discouraged such training fearing their athletes would become "musclebound"—a meaningless term for a non-existent condition. Even before World War II, however, weight training was widely adopted as an adjunct in a variety of sports. But long before this both body-builders and competitive weight lifters recognized that in order to build muscle and lift increasingly heavier weights, it was nec-

essary to exercise with near maximum weights while using low numbers of repetitions. Weights that could only be lifted through 5 or 10 repetitions resulted in great increase in strength and muscle bulk. The use of light weights with many repetitions did not result in such effects. That heavy weight training can result in impressive muscular development is now accepted.

Weight training became medically acceptable and respectable in 1945 when DeLorme^{1,2} published the first of his observations on the use of "Progressive Resistance Exercises" in the rehabilitation of disabled military personnel. DeLorme's principles, which he readily admits in his monograph,³ are simply an adaptation of the weight lifters program to fit the appropriate muscle group needing to be strengthened. In general, he suggests a series of three sets of heavy exercises beginning with a weight of about 50% of maximum and progressing through 75% to maximum weight, each weight being used for 10 repetitions. This is carried out three to five times a week with increasing weight until a plateau is reached. He states that heavy weights and low repetitions yield increased strength and muscle bulk, while low weights and high repetitions result in increased endurance. DeLorme's type of exercises are now extensively used in physiotherapy.

Isometric Contractions

Isometric exercises are relatively new. Hettinger and Muller⁴ in 1953 reported on the relationships between improvement in strength and the frequency and duration of isometric contractions. They assumed that daily activity did not result in an increase in muscular strength. They designed experiments to determine the threshold of muscular tension necessary to produce increased strength. Their subjects were nine normal adult males who performed some 71 experiments using various muscle groups. They state that muscle strength can be increased by 5% per week when the muscle is loaded to as little as one-third of its maximal ca-

capacity. Increasing the tensions (loads) from one-third to two-thirds maximal resulted in more rapid induction of strength, but loads above two-thirds maximum had no added effect. Loads under one-third maximum produced no change. They also observed that the duration of the isometric contraction need not be prolonged until exhaustion occurs. They found that one daily six second isometric contraction was as effective as one held for 45 seconds. The latter time is the usual point of exhaustion.

Hettinger and Muller further found that one daily two-thirds maximum contraction of six seconds duration was all that was necessary to produce the 5% per week increase in strength. More frequent contractions—up to seven a day—did not result in greater gains. Less than one contraction a day reduced the effect. In experiments in which the upper arm muscles were exercised the circumferential measurement was used as the criterion for changes in muscle mass. They found that an increase in circumference (i.e. hypertrophy) accompanied improvement in strength. The contraction time required to reach exhaustion (i.e. endurance) was not prolonged as strength increased.

The levels of strength reached were retained for "long periods" without any special exercises, and the retention increased in proportion to the length of training. In another paper, however, Muller⁵ stated that, at the termination of the daily exercise period, the additional strength was lost at about the rate at which it was gained. Muller added that permanent increases could be retained by long-interval training.

Both Hettinger and Muller concluded that the rate of improved strength differs from person to person and even in various muscle groups in the same person. There is no correlation between the rate of improvement and the ceiling of strength which can be reached.

Baer, Gersten and Robertson,⁶ in 1955, used both high and low resistance exercises, isotonic and isometric, and found that all

types increased work capacity from 115% to 133%.

Rose and others⁷ used the general principles of Hettinger and Muller's isometric contractions to assess gains in both normal and disabled persons. The quadriceps femoris was used and the subject was required to hold the leg, weighted at the foot, in full extension for five seconds. The exercise was performed daily and the subject attempted to increase the load by 1¼ pounds daily until a plateau was reached. In normals, the peak was attained in thirty to ninety days. No hypertrophy was observed, but strength gains were maintained for long periods without any intervening exercise.

Liberson and Asa⁸ trained the muscles of the hypothenar eminence using both isometric and isotonic exercises. Their subjects were divided into two groups—isotonic and isometric. The isotonic group employed 10 repetitions using 50 to 75% of maximum weight, with weekly increases in weight. The isometric group was divided into two sub-groups. One sub-group, "B", used one six second contraction daily while the other sub-groups, "C", used 20 six second contractions daily.

At the end of the study period, all groups showed marked increases in strength. Strength was tested for maximal isotonic gains—that is, maximal weight movement—and for isometric gains (tension). All groups showed gains whether tested isotonically or isometrically. The results were:

Group	Isotonic Gain	Isometric Gain
A. (Isotonically exercised)	103%	112%
B. (One isometric contraction/day)	130%	174%
C. (20 isometric contractions/day)	150%	203%

The investigators did not feel that they could demonstrate hypertrophy. It was apparent that the repeated isometric group did best.

In 1961, Gersten⁹ undertook to compare the results of isotonic and isometric training.

He exercised the upper limbs of paraplegics and the quadriceps femoris of patients with lower leg weakness. One extremity was exercised isotonically and the other isometrically. The isotonic exercises consisted of 10 repetitions with 50% of maximum weight and 10 with maximum weight. The isometric exercise comprised five maximum contractions held for five seconds with three second rest periods. Exercises were performed five times weekly.

At the end of the training period both the isotonic and isometric trained extremities showed marked improvement in strength, and the increase was about equal for both types of exercise. The triceps increased an average of 60% and the quadriceps femoris increased over 100% in power. They concluded that isometric contractions were just as valuable as isotonic movements in physiotherapy.

Walters, Stewart and LeClaire¹⁰ compared the gains in strength and endurance of a group of subjects trained isotonically with a similar group trained isometrically. They also studied the strength development of the isotonic when measured isometrically, and the endurance of the isometric group when measured isotonically. They next compared the change in strength and endurance of the exercised limb with the contra-lateral (unexercised) limb. Finally, the retention effect of both types of exercise was determined.

Their subjects were divided into three groups: one using maximal isometric contractions; one using two-thirds of maximal isometric contractions; and, one using isotonic exercise. All groups exercised for a total of eight days.

The results: all methods increased strength by 22% to 36%; the full isometric was superior to the two-thirds isometric and no better than the isotonic trained group. The full isometric group was the only one that showed an increase in endurance. In all three groups strength was not only retained but continued to increase for three to eight weeks after cessation of training. Studies on the contra-lateral (unexercised) arm showed

strength gains in all three groups, but no increase in endurance except in the full isometric group. In all three groups, there was retention of the gained strength in the contra-lateral (unexercised) arm. They did not, therefore, confirm Hettinger and Muller's finding that the increased strength was lost at the same rate it had been attained; nor did they agree with Hettinger and Muller's finding of no change in the contra-lateral arm. In further disagreement with Hettinger and Muller, they found that full isometric contractions were superior to two-thirds maximal contractions.

Lawrence, Meyer and Mathews¹¹ also compared the effects of isometric and isotonic exercises on the quadriceps femoris. They divided their subjects into two groups, one using isotonic and the other using isometric contractions. For the isometric tests, the exercised leg was required to perform a 30 second isometric hold of a maximum weight on the extended leg. This was repeated 10 times. The isotonic group extended the weighted leg 10 times, repeated for three sets. Both groups exercised four weeks.

At the end of the training period the isotonic group improved (76%), the isometric group (62%). In both there was an increase in power in the contra-lateral (unexercised) limb. In the isotonic group this increase was 92% of that of the exercised leg; in the isometric trainees it amounts to 68% of the exercised extremity. Although these results confirm the value of isometric training, they seem to indicate some slight advantage for the isotonic method. However, it is to be noted that the isometric contractions employed were of near-exhaustion duration, 30 seconds instead of the usual six to 15 seconds.

Schweid, Vignos and Archibald¹² carried out a unique study on the effects of isometric contractions on the quadriceps femoris of children. They used normal first and third grade pupils. One group in each grade served as unexercised controls. In the test groups only one leg was exercised, the other serving as the individual control. The

exercise had the child seated on the edge of a table. The maximum amount of weight, attached to the foot, which could be extended and held for 15 seconds was used. The exercise was performed once a day only, five days per week for eight weeks—a total exercise time of 10 minutes.

The results: the first graders showed an average pre-training lift of 16.4 pounds and a final lift of 22.5 pounds, for a 38% increase; the third grade children had an average pre-training lift of 20.5 pounds and a final lift of 35.5 pounds for a 77% gain in strength; there was no change in the unexercised leg in either grade; the control group of children showed no appreciable change in strength.

These investigators were so intrigued by these results that they tried a once a week isometric regime. For this program, normal adult males and females were used, and the study covered six weeks. Surprisingly, the group averaged from 25 to 50% improvement on this seemingly homeopathic exercise schedule.

Hislop,¹³ using a large number of normals, undertook to cause an increase in strength in various muscle groups and to quantitate these results with respect to frequency, duration and intensity of isometric contractions. Her study material comprised 91 normal, healthy college men, none of whom were engaged in any athletic programs. They were divided into 14 different exercise groups. Eight of these groups performed maximally at each exercise period; four performed at 75% of calculated maximum; two groups exercised at 67% of maximum. Four different frequency periods were employed: two contractions daily, one contraction daily, three contractions weekly, and two contractions weekly. The contractions were held for six or 15 seconds. The study lasted 42 days. Thus, the greatest total exercise time would have been 21 minutes; the least would have been 72 seconds.

At the end of the study the overall average strength increases were:

Two exercise periods daily 17-20% increase

One exercise period daily...12-18% increase
Three exercise periods weekly 8.0% increase
Two exercise periods weekly...7-9% increase

It was noted that groups performing maximally for 15 seconds increased more than those performing maximally for six seconds. Moreover, those exercising with maximum contractions exceeded those using sub-maximal contractions. No muscle hypertrophy was found. However, over a follow-up of several months to a year, no appreciable drop-off in strength was noted. The 5% weekly increase in strength of Hettinger and Muller was not attained. The greatest mean weekly gain was 3.5% and this was only found in those exercising twice daily, 15 seconds, at maximum contraction.

Discussion

The muscle-building value of progressive resistance exercise, using heavy weights, is now accepted in physical medicine. The available evidence indicates that isometric contractions are at least as effective in the development of muscle strength.

It is a little difficult, perhaps, to accept the concept of strengthening muscles via isometric contractions. In the first place, this seems to contradict our fundamental idea of exercise since most of us are accustomed to equating exercise with movement. It is also difficult to conceive that only a few seconds of exercise are sufficient to cause improvement.

The mechanism whereby isometric contractions are effective is not known. Liberson, Dondey and Asa¹⁴ showed that maximal electrogenesis of muscle, recorded during a conventional resistance (i.e. heavy weight) exercise, represents only a fraction—about one-fourth—of the electrical output recorded at the same joint angle during brief isometric exercise. Perhaps the energy output of the isometrically contracted muscle is several times that of the isotonically used muscle, so that even though the actual contraction time is short it may be equivalent,

in energy output, to a much longer exercise time in the isotonically contracted muscle.

It has been suggested⁸ that a muscle can only generate maximum tension when its length is near the resting level. In isotonic contractions a large part of the exercise may be done in an unfavorable position for the muscle; isometric work, on the contrary, can be done entirely in the most desirable position. This factor may allow a relatively short burst of isometric exercise to equate with a longer period of the isotonic type.

If one can, indeed, obtain comparable results with both forms of contractions then the time differential favoring the isometric type offers some advantage. In a busy physiotherapy unit, obviously, more patients could be treated. Moreover, since isometric work requires little or no special apparatus most of the therapy could be performed at home. Doorways, sofas, and other heavy furniture can be used as the anchoring point and exercises may be devised for the appropriate muscles. The fact that this type of exercise does not involve joint movement might, in certain instances, prove advantageous. Furthermore, since the muscle can be kept in its optimum position at all times, there is less likelihood of minor injuries to tendons and muscle fibers.

One disadvantage of isometric exercise is that it is impossible to judge whether or not the subject is exerting maximum, or near maximum force. Since nothing moves, there would be no objective difference between a 50-pound effort and a 250-pound effort. By the same token, the patient cannot actually note any tangible gains in strength and might lose incentive. Strength athletes overcome this objection by combining weight lifting with the isometric program as a means of evaluating progress.

It is not yet settled that muscle hypertrophy accompanies the increased strength following isometric exercise. The reports are conflicting and both confirmation⁴ and denial^{7,13,14} can be found. This is not surprising since muscle hypertrophy must be substantial before change in size can be appreciated

by crude measurement. Moreover, most of the studies were of rather short duration so that, even though strength increased, hypertrophy need not have occurred. It is probable that with longer programs muscular development comparable to that seen with weight training would ensue.

Although Muller reported that isometrically gained strength is lost at about the rate acquired, others disagree and find that the results are maintained to a considerable degree. Since the strength increases approximate or exceed gains made isotonically, and as isotonic gains have been shown to persist for long periods,¹⁷ there is no reason that long-term isometric results should not be well maintained after cessation of exercise.

The effects of isometric training on endurance are difficult to evaluate. One must first decide, "endurance for what?". The cross country runner obviously has endurance—for cross country running. Yet, if his deep knee-bending endurance, using heavy weights, were compared with the weight lifter he would appear to have less endurance. Conversely, if the weight lifter were subjected to a cross-country run, he would appear to be without endurance. There is, as yet, nothing to discredit DeLormes thesis that: heavy resistance with low repetitions results in strength; low resistance with high repetitions results in endurance. Nor is there evidence to deny that, all other factors being equal, a strengthened muscle will have greater endurance for given work than an unstrengthened muscle.

There is nothing in the various studies on isometric contractions to suggest that the next Olympic 1500 meter champion will train isometrically while seated in an arm-chair. However, since runners, as well as other athletes, engage in heavy weight training, it is not improbable that runners of the future will augment their training with isometric work; indeed, this is already being done in many college athletic programs. The swimmers, in particular, have adopted it as a part of their pre-swimming routine. As in all sports, isometric exercise as well as weight

training is used primarily to build strength; endurance is only developed by long practice in the sport itself.

The subject of contra-lateral muscle training has interested physiologists for many years. Originally termed "cross-education", contra-lateral training defines the positive effect of the exercised muscle on its unexercised counterpart. That is, will strengthening only the left quadriceps femoris result in increased power in the right quadriceps even though no exercise is performed by that member? Opinions can be found both supporting^{10,7,4,16,18} and denying^{6,8,9,15} this effect. It is generally agreed, however, that cross-over does not occur if the contra-lateral muscle is completely immobilized during the training period.

Finally, the optimum training schedule for isometric exercise is not completely settled. From available opinion, it appears that the original once a day, two-thirds maximal six-second contraction proposed by Hettinger and Muller is too little. A schedule of two or three maximal contractions per day, held for six to 15 seconds seems to produce the best results. More frequent contractions probably result in no additional gains.

Summary

In an isotonic muscular contraction, the muscle shortens and elicits motion at the adjacent joint; in an isometric contraction the muscle contracts without shortening and without any movement of the joint. If a muscle is contracted isometrically for 6-15 seconds, with maximum force, this is defined as a brief maximal isometric contraction.

It has been shown that if a muscle is subjected to from one to three brief isometric contractions daily, its strength can be increased by 50% to 150% depending on the individual and muscle concerned.

The gained strength may be well retained for considerable periods without further exercise. It is not yet agreed that the unexercised contralateral muscle will also gain

strength, but there is some evidence that it may do so.

Isometric exercises have been shown to be of value in physiotherapy, and can yield results that are equal to, or greater than those resulting from the conventional, heavy resistance isotonic type of exercise. Isometric exercises are valuable as an adjunct to strength training in a variety of sports.

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Insight Spoils "Double Blind" Test

A silly sidelight, but a serious one, is that (FDA) labeling requirements have made some research on patients impossible. The placebo which is used instead of a drug on patients, to make sure that it's the drug and not the patient's attitude that causes changes in his condition, now must be labeled in such a way that he knows when he's getting the medicine and when he's getting the fake. It spoils the experiments.—Editorial in *Journal of the South Carolina Medical Association*, September 1963.

Carcinoma of the Endometrium

RANDOLPH H. HOGE, M.D.
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The incidence of carcinoma of the endometrium is increasing. Interesting aspects of this disease are discussed.

FOR YEARS carcinoma of the cervix has occupied the lime-light in gynecologic oncology, but recently one discerns, in carcinoma of the endometrium, a competitor for the center of the stage as the spotlights become focused more and more brilliantly on the latter interesting disease.

One reason for the enhanced interest in carcinoma of the endometrium is its increased incidence. This increase is due, at least in part, to the fact that more women are reaching the age when the incidence of endometrial carcinoma is highest, for approximately 75% of the cases occur after the menopause.¹ There is also an apparent increase in carcinoma of the endometrium, *relative* to carcinoma of the cervix. Once the ratio was considered approximately one case of endometrial carcinoma to eight cases of cervical carcinoma. Now the ratio is reported as low as 1:3; or even 1:1 in one report.^{1,5,6}

The peak incidence of endometrial carcinoma is perhaps 10 years later than that of cervical carcinoma. This fact, and the one that more women are living beyond the years in which the incidence of cervical carcinoma is highest into the years highest for endometrial carcinoma, undoubtedly play some part in this change in relative incidence.²

Another reason for increased interest in endometrial carcinoma is the growing attention to its etiologic aspects. There is clearly an association of metabolic and/or endocrine disturbances with this disease,³ but whether there is a cause and effect relationship is not established.

Women with carcinoma of the endometrium tend to be overweight.^{1,4} This is said to be by about 10%¹ and to occur earlier after the menopause than in non-carcinomatous women. An interesting aspect of this obesity will be discussed later.

In carcinoma of the endometrium there is a tendency to a late and prolonged menopause, one author reporting that 60% of the patients continue their cycles beyond the age of 50 years, whereas the normal expectancy is 15%.¹ Many of the patients give a history of menstrual aberrations antedating the development of carcinoma. The incidence of past curettages is high, as is the finding then of endometrial hyperplasia. About 50% of the patients will be hypertensive and 10-20% will have clinical diabetes.¹

In contrast to the cases of cervical carcinoma in which 10% of the patients are nulliparous,¹ there is much higher incidence of nulliparous women in the endometrial carcinoma cases,⁴ and other evidence of diminished fertility.

There are seemingly familial, racial, social and/or economic factors in endometrial carcinoma. It is more frequent than carcinoma of the cervix in Jews and less frequent than carcinoma of the cervix in Negroes. The incidence is higher in the higher social and economic groups than in the lower. About 20% of patients will have a family background of a similar cancer.¹

Interesting racial differences for both carcinoma of the endometrium and carcinoma

Read at McGuire Lecture Series, Medical College of Virginia, December 1962.

of the cervix are illustrated by a report of age adjusted incidence rates per 100,000 females in New York City in 1952 as follows:⁵

Group	Cervix	Endometrium	Ratio
Jewish	3.6	15.2	0.23
Other White	13.5	12.6	1.07
Puerto Rican	97.6	7.8	12.5
Negro	47.8	9.2	5.19

This indicates the very high rate of carcinoma of the cervix in the Puerto Rican and in the Negro, and the relative low rate of carcinoma of the endometrium in these groups. In Jewesses there is a relative high rate for carcinoma of the endometrium. In the "other white" category the ratio is approximately 1:1.

In Puerto Rico itself the ratio of endometrial to cervical carcinoma is 1:14. In Bellevue Hospital in New York there has been a recent drop in the absolute and relative incidence of endometrial carcinoma. This has been attributed to the development of an estimated 50% Puerto Rican population in the hospital.⁶

How figures may vary according to economic status and/or other factors is illustrated by the following: During a 10-year period at Bellevue Hospital, which serves the poorest of patients, there was one case of endometrial carcinoma for every six cases of cervical carcinoma; whereas at the University Hospital, only a few blocks away, and having a larger proportion of private patients, the ratio was approximately one to one.⁶

The finger of suspicion points strongly to estrogen, especially to prolonged periods of unopposed estrogen stimulation, as an important etiologic factor in endometrial carcinoma. But the evidence is inconclusive and perhaps contradictory.

Such stimulation on failure of ovulation occurs frequently at the approach of the menopause, and especially when the latter is late or prolonged, and there is evidence that estrogen stimulation may continue for years after the menopause. This covers the periods when the incidence of endometrial

carcinoma is highest. Carcinoma of the endometrium is frequently associated with fibroids and/or endometrial polyps, conditions in which estrogen may play a role.^{1,4} Polyps are said to occur eight times more frequently in carcinomatous uteri than in otherwise normal ones.¹

It is well established both clinically, and by animal experiments, that unopposed estrogen stimulation will produce endometrial hyperplasia. Many think that continuous estrogen stimulation will in some instances convert hyperplasia to carcinoma. This is not so well established, though there is evidence to support it. The incidence of hyperplasia in postmenopausal women with carcinoma of the endometrium is approximately four times as great as in non-carcinomatous women.¹ Retrospective studies repeatedly have shown the occurrence of hyperplasia, especially adenomatous hyperplasia, prior to the development of carcinoma.

Further support of the estrogen factor, in the causation of endometrial carcinoma, lies in the association of feminizing tumors of the ovaries with endometrial disturbances, including carcinoma. Reportedly, approximately eighty per cent of active mesenchymomas are accompanied by an abnormal endometrium⁷ with carcinomas occurring in perhaps 20% of the cases.¹ However, in one collected series of 753 feminizing mesenchymomas the incidence of coexisting endometrial carcinoma was only 3.3%⁸ and in 1990 cases of endometrial carcinoma only seven feminizing tumors were found.⁹ In another series five mesenchymomas were found in 531 cases of endometrial carcinoma, an incidence of 0.9%.¹⁰

Hyperplastic ovarian stroma has been considered a source of estrogen stimulation leading to endometrial carcinoma. This ovarian condition has been reported in 87% of 180 endometrial carcinoma cases,¹¹ and in a ratio of better than 2:1 compared to non-cancerous controls.¹ But others have found no significant difference in the ovarian stroma of patients who had endometrial car-

cinoma and in controls who did not.¹²

Cases of endometrial carcinoma developing in women who received exogenous estrogens over a long period of time have been reported.^{13,14,15} This is not surprising in view of the large number of women receiving these hormones, or very helpful in supporting the theory of carcinogenic effect.

Carcinoma of the endometrium occurs in women who were castrated many years before. We currently have such a case in a nulliparous patient, now 49 years old, in whom the diagnosis of endometrial carcinoma was established one and a half years ago. She had a menarche at the age of 15 and a bilateral oophorectomy for a pelvic abscess at the age of 17. There is no history of hormone therapy. With a weight of approximately 400 lbs., a blood pressure of 260/150, and a fasting blood sugar of 164 mg%, she gives much weight, figuratively and literally, to some aspects of endometrial carcinoma which we are discussing, but perhaps less support to the estrogen theory.

Some years ago it was observed that rabbits developed endometrial carcinoma following pregnancy toxemia which produced cirrhosis of the liver.¹⁶ The diseased livers apparently failed to destroy the endogenous estrogen and this resulted in chronic low-grade estrogenic stimulation. Formerly experiments in animals have not established the fact that exogenous estrogen can result in endometrial carcinoma. In one experiment, massive doses of estrogen were given to rhesus monkeys for periods up to seven years without the development of carcinoma in any organ.¹⁷ In other animal experiments hyperplasia and fibroids have been produced, but no endometrial carcinomas.

However, recently endometrial carcinomas in rabbits have been produced by the injection of stilbestrol.¹⁸ In all of the rabbits in which carcinoma developed there was myometrial invasion and marked endometrial hyperplasia. On rabbit developed metastases. More recently the implantation of 25 mg. pellets of estradiol into rabbits has produced endometrial carcinoma in four

animals. In two of these metastases occurred.

A possible relationship between obesity, estrogen stimulation, and endometrial carcinoma has been suggested in a recent report.¹⁹ Radioactive estradiol was injected intramuscularly into 52 women. The median 72 hour urinary excretion rate in the 22 patients weighing 150 lbs., or less, was 68%. For the 30 women weighing over 150 lbs., it was 56%. This was considered a statistically significant difference. It was believed that the estrogen was stored in the fat of the patients, and released more slowly in the obese patients, thus smoothing out the normal peaks of estrogen excretion. Furthermore, in two patients who were injected with radioactive estradiol preoperatively, fat removed at the time of operation showed appreciable radioactivity.

It has been suggested that there are other endogenous sources of hormones possibly playing a part in the development of endometrial carcinoma.²⁰ These sources include the pituitary gland, the adrenal gland, and the hilar cells of the ovary. They also include the polycystic ovaries of the Stein-Leventhal Syndrome, a condition in which there is a failure of ovulation, and a reportedly increased incidence of endometrial carcinoma.

Despite these things there is a thought that, far from inducing carcinoma of the endometrium, estrogen may protect against it. An article²¹ published in November 1962 supports this thesis with a review of certain literature, and the presentation of a series of 304 cases of women over forty years of age receiving estrogens for periods up to 27 years. None of these women developed genital or mammary cancer, though the author estimated that 18 cases of these cancers were to be expected. However, in most of the reports he quoted, and in 83 of his own cases, progestogens were also given.

The possible beneficial effect of progesterone has been considered for some time.²² This fitted in with the concept that the deleterious effect of estrogen was due to prolonged estrogen stimulation unopposed by progesterone. In 1951, Hertz reported

improvement in advanced cases of *cervical* carcinoma following the use of progesterone, but he later concluded that it was not an effective agent in the treatment of this disease i.e. cervical cancer.^{23,24}

Influenced by previously demonstrated regression of malignant tumors in other organs under hormone control induced by hormonal alteration of the host, the effect of progestogens on endometrial carcinoma has recently been studied.²⁵ Twenty-one patients with far advanced endometrial carcinoma, most of whom had already received treatment by hysterectomy and/or local irradiation, were treated with courses of progestogens. Six of the patients showed objective improvement lasting nine months to four and a half years.

Also recently other workers administered delalutin in large doses to 19 patients with carcinoma of the endometrium.²⁶ In 13 cases this was the primary treatment; all these patients showed clinical improvement and in one there was no residual tumor at hysterectomy. Biopsy and hysterectomy specimens showed no significant changes in some cases, but in five cases acanthomatous and/or secretory changes occurred. In the six patients treated for *recurrent* carcinoma, five showed some clinical improvement.

In another series in which this drug was used, morphologic and functional changes were produced in the endometrial cancer cells, and temporary subjective and objective remissions were produced in approximately 25% of treated patients with recurrence.²⁷

Diagnosis

The diagnosis of endometrial carcinoma, though not difficult, is less easy than the diagnosis of cervical carcinoma. For one thing the site of the lesion is not visible as it usually is in cervical carcinoma. For another thing cytology as practiced for cervical carcinoma is not as accurate for endometrial carcinoma. To offset this, methods have been devised for obtaining cells directly from within the uterus, but they are not quite as simple as *cervical* cytologic methods,

and certainly not as much used. Tissue examination is necessary for the definitive diagnosis of endometrial carcinoma. The use of a suction curette as an office procedure has been advocated for this, but a curettage under anesthesia in the hospital remains the most accurate method.

There still remains for the pathologist a problem in some borderline cases, where it is difficult to distinguish between adenomatous hyperplasia and carcinoma, and incidently changes in pathologic criteria for these diagnoses may play a part in the apparent increase in the diagnosis of endometrial carcinoma.

In passing it may be said that clinical staging of endometrial carcinoma is not nearly as satisfactory as that for cervical carcinoma that can usually be seen and felt.

Treatment

It is generally agreed that surgery is the treatment of choice in endometrial carcinoma in operable cases, though some cures are obtained by irradiation alone. There is, however, a difference of opinion regarding the benefit of combining irradiation and surgery. The weight of opinion seems to favor such a combination, but opinions differ as to the method and time of irradiation with reference to surgery. There is also a difference of opinion as to the value of pelvic node dissection, with the consensus at this time seemingly against such dissection.

We favor intrauterine and intravaginal radium therapy, followed in a few days by wide total abdominal hysterectomy and salpingo-oophorectomy. A node dissection is done only in selected cases.

Summary

In summary, the incidence of carcinoma of the endometrium, both absolutely and in relation to carcinoma of the cervix, is increasing. There are very interesting endocrine and metabolic aspects to the disease. The role of hormones in its etiology is not clear; much evidence points to unopposed estrogen stimulation as a factor. Progestogen

stimulation appears to have palliative and possible prophylactic effects. The curative treatment of this disease is 1. irradiation and surgery combined, 2. surgery alone, or 3. irradiation alone, generally in that order of preference by your speaker, with irradiation alone reserved for cases thought to be inoperable.

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Brain-Stem Encephalitis

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The authors present convincing reasons for classing brain-stem encephalitis and one major group of childhood cerebellar ataxias as post-infectious encephalomyelitis. In addition, five cases are described.

THE POST-INFECTIOUS ENCEPHALOMYELITIDES present a varied clinical picture.¹⁻¹⁶ All parts of the neuraxis may be involved, or segments of it may be involved in isolation. The lesions may be massive as in acute hemorrhagic leukoencephalitis, or so minute as almost to escape detection.^{8,18} Isolated involvement of the brain-stem, of the cerebellum, or of brain-stem cerebellar connections, is commonly encountered. The responsible infection may be one of the exanthemata or a nonspecific infectious disease, frequently of the respiratory tract. Vaccination and inoculation with rabies vaccine are also notorious in this regard. It is generally believed that the lesions in the post-infectious encephalomyelitides are the expression of a delayed hypersensitivity response.

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In the last decade, there have appeared several reports of a disease characterized by focal symptoms and signs referable to the brain-stem, with a rapid onset, a stage of extreme gravity with severe dysfunction of brain-stem structures, and a gradual recovery over weeks or months, leading to a favorable prognosis.¹⁷⁻²² Only one patient¹⁸ succumbed. In every case, a non-specific grippe-like illness preceded the onset of brain-stem manifestations by an interval varying from three days to three weeks. In this regard and in the course of the subsequent illness, this disease, which has been variously called "brain-stem encephalitis", "mesencephalitis and rhombencephalitis", and "acute idiopathic mentencephalitis", closely resembles post-infectious encephalomyelitides.

It is the purpose of this paper to describe five further patients suffering with brain-stem encephalitis, as described. The relationship to post-infectious encephalomyelitis will be discussed. Two of the patients showed preëminently cerebellar disturbances; their course was one of rapid recovery, and their clinical picture closely resembled that described as "Acute Cerebellar Ataxia of Childhood".²³⁻³⁴

Case Reports

Case I—A. F.: A 33-year-old colored female was admitted to the hospital on June 19, 1959, with headache, nausea, and vomiting for two days. Six days earlier, she suffered a respiratory infection with a temperature of 101 degrees F., and crepitations in both lung fields. She was treated with penicillin and recovered within four days. On admission she was drowsy, but apart from nuchal rigidity, she demonstrated no other

abnormal findings. Her temperature was 99.8 degrees F. The cerebrospinal fluid, under a pressure of 180 mm., contained 459 lymphocytes, 147 mgm. % protein, 75 mgm. % sugar, and a 0011122322 colloidal gold curve. Serology on the spinal fluid was negative. No organisms were seen on direct smear, and cultures of the fluid for bacteria and fungi were sterile. Investigations which were normal included hemoglobin, white blood count and differential, blood urea, sugar, blood serology, examination of the urine, heterophile agglutination, and x-rays of the chest and skull.

Over the next two days, she developed a slurring dysarthria, a right VIth nerve weakness, a third degree nystagmus, left facial hypesthesia, right peripheral facial weakness, bilateral cerebellar incoordination, and a marked truncal ataxia. She was afebrile. Spinal fluid, under pressure of 100 mm., contained 132 lymphocytes, 74 mgm. % protein, 80 mgm. % sugar. Bacterial, fungus, and virus cultures were negative.

Deterioration continued, with development of aphonia, aphagia, and urinary incontinence. There was a bilateral external rectus weakness, a mild vertical nystagmus, a bilateral peripheral facial weakness, in addition to the cerebellar signs. At no time were there long tract signs or sensory disturbances other than on the face. Three weeks after the onset, she began to improve, and at the time of discharge four months later had improved to the extent that she was able to feed herself and walk without assistance, though still demonstrating dysphonia, dysarthria, dysphagia, severe nystagmus at rest and in all directions of gaze, a bilateral external rectus weakness, bilateral facial weakness, and marked cerebellar ataxia, with titubation and truncal ataxia. An electroencephalogram, during the acute stage, showed diffuse, generalized slowing in the theta range.

Two years following discharge the patient's condition was completely unchanged, and she had shown no further improvement. The spinal fluid was normal.

Case II—G. L. S.: An 18-year-old white male was admitted to the hospital on June 24, 1961, with a five-day history of diplopia and ataxia. Three weeks earlier he began to complain of feeling unwell, with a left parietal headache which remitted after a week. Seven days prior to admission, he fell without injuring his head, but lacerating his chin and requiring sutures. He was given a tetanus toxoid injection. The following day he developed some ataxia when walking, which gradually increased and became accompanied by diplopia on right lateral gaze, and a slurring dysarthria. On admission he was alert. His temperature was 100 degrees F. No nuchal rigidity was present. There was slight enlargement of the blind spots bilaterally due to choroidal crescents, and the visual acuity was 20/80 right, and 20/60 left. There was a right external rectus weakness with diplopia on right lateral gaze. A horizontal nystagmus was noted, more marked on right lateral gaze, and an unsustained vertical nystagmus was noted on downward gaze. The nystagmus was more pronounced when the patient sat. A very marked cerebellar ataxia was present in all extremities, more so on the left, and the deep tendon reflexes were markedly hyperactive, particularly on the right. The gait was markedly ataxic and wide-based. A slurring cerebellar dysarthria was present. The remainder of the neurological examination was normal. The spinal fluid, under normal pressure, contained 69 cells (67 of which were lymphocytes), 70 mgm. % protein, 54 mgm. % sugar, a normal colloidal gold, and negative serology. The spinal fluid protein electrophoretic pattern was normal. Stains for organisms and cultures for bacteria and fungi were negative. Normal investigations included urinalysis, hemoglobin, white count, differential, blood serology, heterophile agglutination, sedimentation rate, blood sugar, urea, electrolytes, x-rays of the chest and skull, and an electroencephalogram. Complement fixation tests on acute and convalescent sera were negative for mumps,

lymphocyte choriomeningitis, Eastern and Western equine encephalitis, St. Louis encephalitis, and adenovirus.

Fever subsided within two days, but over the next two weeks progression of neurological symptoms continued, with increase of the ataxia and commencement of titubation of the head and trunk. The dysarthria became so pronounced as almost to amount to anarthria. Repeated spinal fluid examinations yielded a progressive diminution in cell count and protein.

At the time of this report, ten months after admission, his neurological findings remain unchanged from the maximum severity reached two weeks after admission.

Case III—P. S.: A 36-year-old white male was admitted to the hospital on September 18, 1961, with headache and vomiting for two days. One week prior to admission, he developed a sore throat and chest pain, with associated cough. On the day of admission, diplopia and ataxia were noted.

On examination, the patient was drowsy. His temperature was 102.4 degrees F. Nuchal rigidity was present. There was weakness of the right superior rectus, the left superior oblique, the left external rectus, and the left inferior rectus muscles. There was nystagmus in all directions of gaze. There was a slight right central facial weakness, diminution of the abdominal reflexes on the right, and generalized increase in the deep tendon reflexes throughout. The remainder of the neurological examination was normal. The spinal fluid, under normal pressure, contained 360 white cells (50% polymorphonuclears, 50% lymphocytes), 46 mgm. % protein, 70 mgm. % sugar, a normal colloidal gold curve, and negative serology. Stains for organisms and cultures for bacteria and fungi were negative. Normal investigations included urinalysis, hemoglobin, white count and differential, blood sugar, urea, CO₂, chloride, sodium, potassium, x-rays of the chest and skull, and an electroencephalogram. Serum protein electrophoresis showed slight elevation of the alpha-1 and alpha-2 globulin. Viral

antibody titres revealed an elevation of Type 2 poliomyelitis, from 1 to 8, to 1 to 64.

Fever subsided within three days, and the spinal fluid pleocytosis progressively over three weeks. The neurological examination remained unchanged. Two months after discharge, there had been no change in his neurological findings.

Comments

These three patients all fall into a classical pattern:

A. Age

All three patients were young adults.

B. Prodromal Symptoms

In each case, prodromal symptoms preceded the onset by one to three weeks. In two patients, these consisted of a respiratory infection, and in one, of headache and malaise.

C. Presenting Symptoms

Headache, vomiting, and drowsiness were the earliest symptoms in two of the patients, and headache and ataxia characterized the third.

D. Physical Signs

Defects of ocular movements were common to all three patients. In one, this represented a bilateral external rectus weakness; in a second, a bilateral internal rectus; in the third, it was a complex combination of external ocular muscle palsies. Nystagmus occurred in all three, and was a phasic nystagmus, present in all directions of gaze, and at rest in two of the patients. One patient showed facial hypesthesia, one a bilateral peripheral facial weakness, and one a central facial weakness. One patient had a complete bulbar palsy. Two patients showed severe cerebellar signs, with dysarthria, ataxia of the limbs, and titubation and trunk ataxia. One patient showed a mild unilateral corticospinal tract deficit,

and one patient a marked bilateral corticospinal tract deficit. In no case was there any sensory involvement.

E. *Clinical Course*

One patient reached his maximum involvement within three days, and in the other two, ingravescence was slower and maximal involvement was reached in two weeks. In all, the progression was slow and unremitting. In no patient did cardiac or respiratory distress occur. Improvement from maximal involvement occurred over a period of four months in one patient, but reached a plateau with a devastating residual disability. None of the patients showed further improvement during the period of observation.

F. *Laboratory Investigations*

Cerebrospinal fluid cell count varied from 459 to 69, and the response was predominantly lymphocytic. The protein content varied from 147 mgm. % to 40 mgm. %. A meningitic colloidal gold curve was present in one patient. Virological study revealed an increased Type 2 poliomyelitis titre in the serum of one patient. This was felt to be a significant rise. Electroencephalography demonstrated diffuse slow wave activity in two patients and was normal in one.

Case Reports

Case IV—E. H. F.: A 16-year-old white female was admitted to the hospital on June 24, 1960, with a three-day history of diplopia, increasing dysarthria, ataxia, dull headache, and morning vomiting. She had a two-year history of frequent sore throats and earache, and ten days prior to admission, she suffered such an episode. She was treated for streptococcal tonsillitis with sulfa drugs and penicillin. Three days prior to admission, her malaise and fever had subsided, but at this stage she developed the symptoms which led to her admission. On examination, she was drowsy. Her temperature was

100 degrees F. There was no nuchal rigidity. Diplopia was present on red lens testing in all directions of gaze, with weakness of both lateral rectus muscles. A fine horizontal nystagmus on left lateral gaze was noted. There was a mild right lower facial weakness and a diminished gag reflex on the left. There was marked cerebellar incoordination in all four extremities, though more marked in the arms than in the legs, and more marked on the right side than on the left. The deep tendon reflexes were slightly increased throughout the right side. The gait was markedly ataxic, with a wide base and instability on turning. The speech showed a moderate cerebellar dysarthria. The remainder of the neurological examination was normal. The spinal fluid, under normal pressure, contained 4 segmented neutrophils and 1 lymphocyte, 50 mgm. % protein, 64 mgm. % sugar, a normal colloidal gold curve and negative serology. Normal examinations included urinalysis, hematocrit, white blood count and differential, sedimentation rate, fasting blood sugar, heterophile agglutination for infectious mononucleosis, x-rays of the skull and electroencephalography. Throat culture did not reveal pathogenic organisms.

Within three days, the patient began to improve and within eight days became completely asymptomatic. The only abnormal finding at this stage was an unsustained horizontal nystagmus on left lateral gaze.

Follow-up report 1-1/2 years later revealed no residual abnormalities or recurrences.

Case V—G. F.: A 12-year-old white male was admitted to the hospital on March 3, 1959, with nausea, vomiting, and ataxia of sudden onset three days earlier. Ten days before admission, the child was treated for an upper respiratory infection with penicillin.

On examination, the child was drowsy and demonstrated a marked cerebellar dysarthria. A right external rectus weakness, bilateral cerebellar ataxia, and a marked truncal ataxia were noted. The limbs were

hypotonic, with decreased deep tendon reflexes, but the plantar responses were extensor bilaterally. The spinal fluid, under pressure of 120 mm., contained no cells, 72 mgm. % protein, 54 mgm. % sugar, a normal colloidal gold curve, and negative serology. Cerebrospinal fluid culture was normal. The hematocrit, white blood count, differential, and heterophile agglutination were normal. The electroencephalogram showed high amplitude, irregular, asynchronous, generalized delta activity.

Within three days, the patient made a complete recovery and no abnormal neurologic signs could be elicited. He has remained well over the subsequent two years.

Comment

A. Age

Both these patients were in the second decade.

B. Prodromal Symptoms

In both patients, upper respiratory infections occurred seven days prior to the onset of symptoms.

C. Presenting Symptoms

These consisted of headache, diplopia, and ataxia in one patient, and the sudden onset of nausea, lethargy, and ataxia in the other.

D. Physical Signs

Both patients showed defects of external ocular movements, in the form of external rectus weakness. Nystagmus was present in both. Facial weakness was present in one, and marked cerebellar incoordination with truncal ataxia in both. Neither patient demonstrated corticospinal tract or sensory involvement.

E. Clinical Course

This was rapid to maximal affection within two days, and complete recovery occurred within three days in one patient, and

within two weeks in the second. Follow-up after two years in one patient, and one and one-half years in the other, revealed no sequelae.

F. Laboratory Investigations

There were no abnormal findings in either patient.

Discussion

The five patients described in this paper clinically resemble most closely all the patients described in the literature suffering with brain-stem encephalitis.¹⁷⁻²² The first three patients differ from those previously described in the persistence of their severe neurological deficits. This feature renders even more apparent that the clinical picture of brain-stem encephalitis differs in no way from those cases of post-infectious encephalomyelitis, where the brunt of the illness has fallen on the brain-stem. It would, therefore, seem reasonable to suggest that there is no distinction between brain-stem encephalitis and post-infectious encephalomyelitis, and that the only justification for the former term is to draw attention to its occurrence, in view of the seriousness of the differential diagnosis, including, as it does, acute multiple sclerosis and brain-stem neoplasm. The autopsy findings, in the patient described by Bickerstaff¹⁸ who died of brain-stem encephalitis, are in keeping with the pathological findings in post-infectious encephalomyelitis. This similarity in histopathology, and the constant occurrence of a grippe-like illness followed by a latent period, completes the resemblance with post-infectious encephalomyelitis, which is presumed to represent an immunological reaction.

Patients IV and V, furthermore, may be identified with the syndrome described as Acute Cerebellar Ataxia of Childhood. A review of the reported cases of this condition²³⁻³⁴ indicates that this is not a homogeneous syndrome, but that there exist under this heading at least two distinct

groups. This disparity is noted in the majority of the reported series and has previously received comment.²⁵⁻²⁸ The first group, which would include the patients presented in this paper, is characterized by a prodromal illness, followed by symptoms and signs predominantly cerebellar, but, in many instances, showing evidence of cerebral or brain-stem involvement. Where residual neurological deficits occur, the patients are likely to be found in this group. The second group, on the other hand, is characterized by the acute onset, without prodromal illness, of purely cerebellar dysfunction. It is therefore suggested that the term, Acute Cerebellar Ataxia of Childhood, be confined to the primary or idiopathic syndrome which, by its nature, may well represent a toxic affection. The acute cerebellar ataxia following a prodromal illness, and frequently exhibiting brain-stem symptomatology, should be regarded—like brain-stem encephalitis—as the manifestation of post-infectious encephalomyelitis, in which, perchance, the brunt of the illness has fallen upon the brain-stem, the cerebellum, or the brain-stem cerebellar connections.

Summary

Five patients suffering with brain-stem encephalitis are described.

The intimate resemblance to post-infectious encephalomyelitis is discussed. A relationship between brain-stem encephalitis and acute cerebellar ataxia of childhood is noted, and it is suggested that brain-stem encephalitis and one major group of the childhood cerebellar ataxias are manifestations of predominantly focal post-infectious encephalomyelitis.

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Blood Fats Elevated in Coronary-Prone Group

Elevated blood fat levels have been found in coronary-prone, highly competitive persons compared with those in low-pressure occupations. The level of several fats in the blood, including cholesterol, was determined in 10 men displaying competitive behavior and in 10 men who did not exhibit such characteristics in a study reported by Drs. Ray H. Rosenman and Meyer Friedman, San Francisco, in the June 22nd *Journal of the American Medical Association*.

"Each of the men in the first group occupied a position not necessarily of top executive character but invariably demanding extreme competitive activity and associated with habitual exposure to deadlines, such as managing and city editors of newspapers and corporate executives directly engaged in highly competitive activities of merchandising or engineering."

This behavior pattern has previously been associated with a high prevalence of coronary disease. The converse of these criteria

were used to select the other 10 men. "Their occupations, which demanded neither competitive activity nor preoccupation with deadlines, included municipal employment in clerical or accounting duties, embalming, and routine bookkeeping."

The average age, height, and weight of the two groups were closely similar. The overall weekly average of physical activity was not significantly different, and the average daily intake of total calories and various foodstuffs, was closely similar in the two groups.

An analysis of the data revealed that 12 men were considered to have a relatively greater potential to develop coronary disease than the others. Of these 12, 9 were in the competitive group. On the other hand, seven men who had the lowest potential were in the noncompetitive group.

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The Incidence of Preventable Forms of Brain Damage

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Mental retardates and brain damaged individuals admitted to a state institution have been examined to find the incidence of preventable forms of brain damage. These cases have been classified and discussed.

THIS STUDY was made to determine the proportion of preventable forms of brain damage (PBD) among young, recently admitted patients at the Lynchburg Training School and Hospital. This institution is the only State institution for white retardates and brain damaged in the State of Virginia.

The principles for selection of patients were developed in order to control pertinent variables.* The age of ten years was arbitrarily selected as an upper limit. Patients ten years or younger were considered to have had a better chance to benefit from the recent progress in medicine in comparison with those that were older. This study was begun in October, 1962. Hence, patients born after October 1, 1952, were the subject of this paper. Patients presented to the diagnostic staff conference between July 6, 1960, and October 1, 1962, were included; there were 564 consecutive new admissions during this period of time. On July 6, 1960, the new diagnostic manual⁷ was introduced at

this hospital and, thereafter, all patients were classified according to it. The diagnostic classifications used previously were sufficiently different and too incompatible to provide a basis for a control group. Although the material presented is not checked against a matched group it is hoped it will provide a control group for any future study of a similar type.

Table I lists the number of patients within various diagnostic categories. Only main categories were used. The subgroups of classifications were omitted and patients falling into the subgroups were included in the main diagnostic classifications. This was done in order to avoid excessive dispersion of groups of patients.

Within the group of 189 patients who on October 1, 1962, were younger than ten years, there were 66 cases that should be considered as belonging to preventable forms of brain damage.^{1,3,5,6,8,9,10,11} There is no way to determine whether the given type of mental deficiency is really preventable or not. The selection has been made on an optimistic basis: conditions in which the therapeutic or preventive measures have shown some degree of success have been included. Conditions in which no known treatment or prevention exists have been excluded. Conditions of PBD represented in this clinical material are listed in Table II. The great majority of these patients were functioning on the profoundly retarded level (Table III). Table IV shows the age of patients on admission. There were 14 patients admitted before they were three years old. The physical handicaps of these infants, which presumably led to such early hospitalization, are listed in Table V.

*I am indebted to Benedict Nagler, M.D., Hannah Davis, Ph.D. and Marjorie Kirkland, M.S.S.W. for their assistance and advice.

TABLE I
NUMBER OF NEW ADMISSIONS PRESENTED TO THE CLASSIFICATION
STAFF AND THEIR CLASSIFICATIONS
DURING THE PERIOD JULY 6, 1960 TO OCTOBER 1, 1962

Code	CLASSIFICATION	BORN		Total
		Before	After	
		October 1, 1952		
11	Encephalopathy, congenital, associated with pre-natal infection.....	2	3	5
12	Encephalopathy due to postnatal cerebral infection..	30	15	45
21	Encephalopathy, congenital, associated with toxemia of pregnancy.....	1	1	2
23	Bilirubin encephalopathy (Kernicterus).....	4	1	5
29	Encephalopathy, other, due to intoxication.....	1	1	2
31	Encephalopathy due to prenatal injury.....	2	2	4
32	Encephalopathy due to mechanical injury at birth...	10	6	16
33	Encephalopathy due to anoxemia at birth.....	6	5	11
34	Encephalopathy due to postnatal injury.....	9	11	20
40	Cerebral Lipoidosis, infantile (Tay-Sach's disease)...	—	2	2
41	Encephalopathy associated with other disorders of lipid metabolism.....	—	1	1
42	Phenylketonuria.....	5	4	9
47	Hypothyroidism.....	1	—	1
48	Gargoylism.....	1	1	2
49	Encephalopathy, other, due to metabolic, growth or nutritional disorder.....	3	1	4
53	Tuberous sclerosis.....	3	—	3
61	Cerebral defect, congenital.....	7	14	21
62	Cerebral defect, congenital, associated with primary cranial anomaly.....	8	18	26
64	Mongolism.....	19	23	42
69	Other, due to unknown prenatal influence.....	1	3	4
71	Encephalopathy associated with diffuse sclerosis of brain.....	—	1	1
72	Encephalopathy associated with cerebellar degeneration.....	1	2	3
78	Encephalopathy associated with prematurity.....	19	15	34
79	Encephalopathy, other, due to unknown or uncertain cause with the structural reactions manifest.....	83	42	125
81	Cultural-familial mental retardation.....	41	3	44
82	Psychogenic mental retardation associated with environmental deprivation.....	9	1	10
83	Psychogenic mental retardation associated with emotional disturbance.....	8	1	9
84	Mental retardation associated with psychotic disorder.....	4	—	4
89	Mental retardation, other, due to uncertain cause with the functional reaction alone manifest.....	90	7	97
98	Not mentally retarded.....	6	1	7
	APA Classifications.....	4	—	4
	Other.....	—	1	1
	Total.....	378 (67.0%)	186 (33.0%)	564 (100%)

The number of cases of PBD within individual categories appear to be too small to discuss them separately. Therefore, five categories shown in Table II including codes 12, 78, 34, 32 and 33 have been combined into one group of 52 cases. (Incidentally, only

one case of tuberculous meningitis was observed among patients classified according to code 12.) There are several reasons for such grouping. The diagnostic staff conference makes classification of ultimate sequelae of various previous pathologic conditions.

At this late stage such diagnostic classifications of the above-mentioned categories are differentiation is complicated further by similarities of clinical pictures of various

TABLE II
PREVENTABLE FORMS OF BRAIN DAMAGE REPRESENTED IN THE CLINICAL MATERIAL
AMONG PATIENTS BORN AFTER OCTOBER 1, 1952

Code	CLASSIFICATION OF ENCEPHALOPATHY	N
12	Due to postnatal cerebral infection.....	15
78	Associated with prematurity.....	15
34	Due to postnatal injury.....	11
32	Due to mechanical injury at birth.....	6
33	Due to anoxemia at birth.....	5
42	Phenylketonuria.....	4
11	Congenital, associated with prenatal infection.....	3
62.1	Cranioostenosis.....	2
31	Due to prenatal injury.....	2
21	Congenital, associated with toxemia of pregnancy.....	1
23	Kernicterus.....	1
29	Due to other intoxication.....	1
	Total of PBD.....	66 (35.7%)
	All other.....	120 (64.3%)
	Total.....	186 (100.0%)

made on the basis of the retrospective interpretation of the history only. This diagnosis conditions. For example, birth trauma and asphyxia may look alike clinically.⁴ There

TABLE III
LEVEL OF INTELLECTUAL FUNCTIONING OF PATIENTS
WITH PREVENTABLE FORMS OF BRAIN DAMAGE

LEVEL OF FUNCTIONING	N
Profound retardation (-5).....	57
Severe retardation (-4).....	8
Moderate retardation (-3).....	—
Mild retardation (-2).....	—
Borderline retardation (-1).....	1
Total.....	66

tic procedure differs considerably from that in any acute hospital setting where one can observe symptoms in process and is in a better position to draw definite conclusions. The differentiation is often difficult in the acute setting since many patients have in their past history two or more factors leading to various classifications of this group and even more so at a later time.

It is frequently necessary for classification purposes to differentiate among such distinct conditions as prematurity, birth trauma and intracranial infection when all three are reported in the history. The process of

TABLE IV
AGE OF PATIENTS AT THE TIME OF ADMISSION

AGE IN YEARS	N
0-1.....	4
1-2.....	6
2-3.....	4
3-4.....	10
4-5.....	7
5-6.....	11
6-7.....	10
7-8.....	11
8-9.....	3
9-10.....	—
Total.....	66

TABLE V
PHYSICAL DEFECTS OF THE GROUP OF 14 PATIENTS
ADMITTED BEFORE THEY WERE THREE YEARS OLD

CONDITION	N
Hydrocephalus.....	5
Blindness and spasticity.....	2
History of multiple surgery on skull.....	2
Congenital heart defect with cyanosis.....	1
Flaccid paralysis.....	1
Severe motor retardation.....	1
Epilepsy.....	1
Spasticity.....	1
Total.....	14

are also frequent cases where one condition may result from another. The trauma may cause edema of the brain which results in compression of blood vessels on the precapillary level; as a consequence ischemia and anoxia develop.^{2,12} Premature infants sustain birth injuries in higher proportion than full-term infants.¹¹ There is also a correlation between injury and infection. Schwartz¹¹ has stated that "purulent meningitis appearing five to eight days after delivery may be the consequence of a birth injury."

Table VI shows the distribution of sexes within this group described above. The

TABLE VI

DISTRIBUTION OF SEXES AMONG 52 PATIENTS OF DISCUSSED SUBGROUP WITH PBD

SEX	N
Males	32
Females	20

higher incidence of male patients confirms the observation that male fetuses and newborns show an increased morbidity.⁹ Table VII shows the birth order of patients. The

TABLE VII

THE BIRTH ORDER OF 52 PATIENTS

BORN AS	N
First	17
Second	12
Third	9
Fourth	6
Fifth	2
Sixth	1
Seventh	1
Eighth	1
?	3

majority of patients in this group were born as the first or second child. This table provides a good illustration for the statement of Schwartz:¹¹ "the greater the number of siblings preceding the baby expected, the better are his prospects of being safely born." The data of Table VII correspond to findings of Table VIII showing that mothers of these patients were young. These findings

seem to contradict the well established fact that there are fewer brain injuries among children of younger mothers. This paradox can be explained by the fact that in the general population, the great majority of women give birth to their children at their optimal age, i.e., between 19 and 24. Although the absolute number of brain damaged children born to young mothers is high, the proportion is probably lower. Therefore, although the number is low, the incidence of brain damaged children born to older mothers may be proportionally higher.

TABLE VIII

THE AGE OF MOTHERS AT THE TIME OF PATIENTS' BIRTH

AGE RANGE	N
16-20	14
21-25	21
26-30	8
31-35	4
36-40	3
41-45	1
?	1
Total	52

Table IX shows that almost half of the patients were born prematurely according to the criterion of birth weight. Table X

TABLE IX

BIRTH WEIGHTS OF 52 PATIENTS

POUNDS	N
Less than 2	1
2- 3	5
3- 4	3
4- 5	8
5- 6	10*
6- 7	3
7- 8	7
8- 9	7
9-10	2
Described as "normal"	6

*Within this group there were six patients with birth weights below 5 lbs. and 8 oz., hence:
Premature by weight..... 23
Full term by weight..... 29

lists the physical conditions of patients on admission. The total is higher than 52 because some of the patients had more than one of the conditions listed.

The remaining 14 cases of PBD (code numbers 42, 11, 62.1, 31, 21, 23 and 29. See Table II) represent seven various categories. It seems that these cases cannot be combined in a larger group since they belong to very distinct types of impairments. Therefore, no conclusions can be drawn from this sta-

TABLE X
PHYSICAL CONDITIONS ON ADMISSION OF 52 PATIENTS

CONDITION	N
Spasticity.....	26
Epilepsy.....	9
Abnormal EEG without epileptic seizures....	6
Blindness.....	5
Hydrocephalus.....	5
Multiple congenital maldevelopments.....	3
Ataxia.....	3
Flaccid paralysis.....	2
Visual impairment.....	2
Auditory impairment.....	1
Other.....	6
No gross physical defect.....	4

tistic. There are four cases of phenylketonuria. Although included, these cases were not actually preventable because all four were older than one year when, in May 1958, the low phenylalanine diet (Lofenilac) was introduced and became available.

Summary and Conclusions

1. Among 564 consecutive new admissions there were 186 (33.0%) younger than ten years of age on the day of the beginning of the study.
2. Among 186 patients younger than ten years there were 66 (37.7%) belonging to preventable forms of brain damage (PBD).
3. Among 66 cases with PBD there were 57 (approximately 85%) functioning on the profoundly retarded level.
4. Within a group of 52 cases classified according to code numbers: 12, 32, 33, 34 and 78 there were more males than females (32:20).

- (a) 29 patients (approximately 60%) were born as a first or second child.
- (b) 35 mothers (approximately 70%) were younger than 25 years at the time of patient's birth.
- (c) 23 patients (approximately 45%) were born prematurely.

5. In the discussed clinical material there were only single cases of encephalopathies due to tuberculous meningitis, toxemia of pregnancy, kernicterus and other intoxications (lead).

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The Medical Library and the Scientific Revolution

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The volume of medical literature is expanding at the rate of an explosion. Medical libraries in many cases are finding it difficult to carry out their responsibilities.

MR. HAROLD BLOOMQUIST, Assistant Librarian of the Harvard Medical School Library, in a report on the status and needs of medical school libraries of October 1962, spoke of the following characteristics of the scientific revolution:

1. Growth of research and new knowledge;
2. Specialization and multi-disciplinary science.

Growth of Research

The growth of research may best be illustrated by the total national expenditure for medical research which rose from \$45,000,000 in 1940 to \$148,000,000 in 1950 and to \$715,000,000 in 1960. In 1970, it is assumed, total outlays for medical research will reach \$3,000,000,000!

It is noteworthy that the role of the Federal government in this research effort has increased significantly. It rose from 7 per cent in 1940 to 53 per cent in 1960. In the latter year \$494,000,000 were spent. In 1962 the outlay will be \$857,000,000, an increase of nearly 75 per cent in only two years. The estimate for 1963 exceeds \$1,000,000,000. Much of this money, nearly three-fourths,

is spent through grants and contracts to research workers, largely universities.

These funds represented close to 40 per cent of the total expenditures of all 85 United States medical schools in 1960-61. According to a recent report by the A.L.A. Council on Medical Education and Hospitals on "Money and Medical Schools," federal research and training grants accounted for over \$161,000,000, or 37.2 per cent, of the total expenditures. If non-federal research and training grants and the overhead were added to the federal grants, they amounted to \$234,200,000, or 54 per cent, of the total funds expended by medical schools in 1960-61. The size of these research funds (54 per cent) is truly impressive when compared with income derived from tuition fees (6.4 per cent), gifts and grants (2.5 per cent), medical services (2.8 per cent), or endowment income (4.2 per cent).

Another way of illustrating the literature explosion is in terms of the research papers many of which eventually find their way into journals or monographs. Research grants by the National Institutes of Health "produced" an estimated 34,000 papers in 1956 as compared with 70,000 papers in 1960. If NIH grants continue to increase at the current rate, the Bloomquist report states, the number of research papers published in 1970 will approximate 155,000.

Specialization and Multi-Disciplinary Science

Other factors that have and are contributing to the growth and diversification of medical literature are specialization and realignments within and among the various disciplines. As was pointed out by Dr.

Rogers, former Librarian, the National Library of Medicine, "It is clear that the frontiers of research today are characterized by categorical problem orientation, in which knowledge and skills of multiple disciplines are brought to a focus on a problem area." In short, we are in the midst of a multi-disciplinary research effort which in turn is developing new specialized areas. Publications such as *Cancer Chemotherapy Abstracts* or *Psychopharmacological Abstracts*, according to Dr. Rogers, are the result of these tendencies and new publications focusing on the problem-oriented fields are being issued in increasingly greater numbers.

Closely related is the tendency of medical research to extend into heretofore relatively "un-related" areas, such as genetics, biophysics, electronics, sociology, anthropology, and statistics.

Changes in Teaching Methods

One other development which is placing an additional burden on medical libraries is a change of teaching methods and of curricula. While in the past, a great deal of instruction was through lectures and studies from textbooks there is now a much greater emphasis on independent reading and lesser reliance on texts. As a matter of fact there are hardly any texts in some of the new interdisciplinary sciences mentioned above and the teacher as well as the student must find their materials in journal articles. President Kennedy, in his Special Education Message of January 29, 1963, referred to this trend as follows: "Because today's trend in colleges and universities is toward less lecturing and more independent study, the college and university library becomes even more essential in the life of our students."

Lack of Space and Funds

The almost unbelievable growth of research activities has had a considerable impact on medical libraries which are responsible for the acquisition, organization, preservation, and servicing of the literature.

In many instances the libraries were totally unprepared to handle the masses of new materials. Expansion of existing library facilities and the establishment of new libraries has been the direct result of these developments. It is felt, in many quarters, that the availability of first-class library facilities is essential for the execution of the educational, research, and medical care programs.

One of the most difficult problems revolves around the lack of space and adequate budgets on the part of many of the older and smaller libraries. The increase in the number and cost of journals and monographic literature in medicine and the pre-clinical sciences will haunt school administrators for many years to come.

The Growth of the Journal Literature

Already in 1879, John Shaw Billings remarked (in the old *Boston Medical and Surgical Journal*) that it was "as useless to advise a man not to start a new journal as it is to advise him not to commit suicide." In Billings' day (1880) one counted some 864 substantive medical journals. This figure increased to about 5,500 by 1962. However, if the substantive and non-substantive journals and serials in the biomedical field are added, one finds that there are about 14,000 titles in existence today. Dr. Rogers noted that "There is good evidence that the *net* gain in new medical journals over the past ten years comes to approximately 1,000, or an increase of about *two* new titles per week throughout the decade."

Journal subscriptions usually represent a permanent charge against a library's budget. This outlay comprises the cost of the subscription, binding costs, and possible replacement costs. In this age of inflationary pressures it is probably not surprising to learn that these costs have risen markedly in the past years. The annual average subscription price for United States medical journals has risen from \$7.74 in 1950 to \$11.19 in 1961, or an increase of 44.6 per cent in eleven years.

The Growth of the Monographic Literature

Although the monographic literature is not as important as the journals in the medical sciences, it too is increasing by leaps and bounds. In 1961, for example, 772 medical books were published in the United States as compared to 952 in 1962, or an increase of 23 per cent. Annual average book prices for United States medical books were as follows: 1947-49: \$7.74; 1960: \$8.41; and 1961: \$9.40.

Bibliographic Control of the Medical Literature

Medical librarians have long searched for an effective method of bringing large numbers of medical publications under some effective bibliographic control. It was found that the traditional means of indexing and cataloging do not suffice. The National Library of Medicine finally decided on the utilization of an electronic system of information storage and retrieval. The heart of this system is a Honeywell-800 digital computer which was installed in the National Library in March 1963.

One of the objectives of the mechanized system is the production of the monthly (and annual Cumulated) *Index Medicus* which is the major world-wide index to the medical literature. The coverage of the literature will be significantly broadened in the years to come. While 150,000 articles are currently being indexed in the National Library, the fully mechanized system will enable the Library to index 250,000 articles and monographs by 1969. In addition, the system will provide for the production of 50 recurring and of up to 2,500 non-recurring bibliographies by 1964.

The availability of this system will make it possible for local medical libraries to de-emphasize bibliographical searches. On the other hand, the expansion of the *Index Medicus* and the production of subject bibliographies will accentuate the need of local libraries to have on hand the materials

referred to in these machine-produced bibliographies. Mr. Scott Adams, Deputy Director of the National Library of Medicine, said in an address before the American Association of Medical Colleges on October 29, 1962, "Local availability of the literature is absolutely essential if the national capabilities of MEDLARS (standing for Medical Literature Analysis and Retrieval System) are to be realized. The libraries of the schools in our fifty states must be built up so that they can supply, without inordinate delays, the reading matter to which the new *Index Medicus* and the other MEDLARS products will guide them." Eventually medical libraries may have to acquire or gain access to local electronic data processing equipment in order to search duplicate magnetic tapes which will be distributed regionally by the National Library.

Conclusions

In the conclusion to his survey Mr. Bloomquist stated that "Medical school and university administrators in the United States are in the process of learning the fact that the medical literature is important and that the proper management of it is complex, expensive, and essential." At the same time he noted that "We are thirty years late, and some have not yet learned." If the trends summarized in this paper should have any meaning at all, many local medical libraries will have to effect a thorough re-organization and up-grading of their plants, budgets, personnel, and acquisition schedules. Between 1954 and 1960 the number of research workers in medicine has increased more than 100 per cent; or from 19,000 to nearly 40,000. In 1970, according to current projections, the research program will be about three times as large in dollar terms as the program in 1961, employing possibly up to 80,000 men and women. The expansion of research in the health sciences is not confined to the United States alone, but is being carried out in many foreign countries also. The National Library of Medicine is now making a concerted effort to index the

increasingly complex and voluminous printed records of this research product through the use of mechanized information storage and retrieval methods. Local medical libraries will also have to make gigantic efforts to keep up with these developments. In the final analysis the availability of well-managed local collections as reservoirs and distributing agencies of the current and retrospective medical literature may have a significant relation to the success or failure of the entire program.

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*Medical Library
School of Medicine
University of Virginia
Charlottesville, Virginia*

Prevent Hepatitis

The routine use of gamma globulin to prevent serum hepatitis following blood transfusions is suggested in view of the high fatality rate from this disease and the expectation of a more ample supply of gamma globulin. Serum hepatitis is a liver disease caused by a virus transmitted by transfused blood or unsterile instruments.

Blood transfusions cause death in approximately 1 of every 150 transfusions in persons over 40 years of age as a result of serum hepatitis, according to an editorial in the September 28 *Journal of the American Medical Association.*

"Since this is the age group to which most blood transfusions are given, and since many hundreds are given daily, such a high fatality rate becomes a major problem."

It has been shown that in about three-

fourths of those receiving transfusions two subsequent doses of gamma globulin can prevent serum hepatitis. Up to now, gamma globulin has not been widely advocated for such protection because supplies were limited.

However, increasing evidence that measles vaccines will lead to successful immunization indicates that less gamma globulin will be required to treat that disease. There is also increasing evidence of the safety and feasibility of a donor giving blood more frequently which should increase the supply of gamma globulin, a blood plasma protein.

"In view of these developments and the vital importance of the problem in persons over 40 years of age, the routine administration of gamma globulin after blood transfusion should be given serious consideration."

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Measles Vaccine

One of the most severe killers and crippers of children is an infectious disease generally referred to as "common childhood measles". Now that both live attenuated and killed vaccines are licensed, it will be up to each individual physician to choose his method of preventing measles.

Deaths from uncomplicated measles are rare, but deaths from the complications, chiefly pneumonia, amount to about 400 a year in the United States. Last year there were 10 deaths from measles in Virginia. Encephalitis, which is estimated to occur once in 1,000 cases, can leave a child mentally damaged for life.

Measles may be responsible for far more central nervous system diseases than the encephalitis statistics indicate. Fifty per cent (about two million annually) of all persons with natural measles show brain involvement, as evidenced by an abnormal electroencephalogram, during the acute and post-acute periods of the disease. In a great majority of these cases, the encephalogram clears up within ten days. Even then, according to recent evidence, there is the possibility of subsequent emotional instability, psychiatric symptoms, or a reduction of intellectual power.

Known medically as rubeola and morbilli, measles as a clinical entity was defined by Rhazes, the Arabian physician, about 900 A.D. It was not until more than ten centuries later, in 1954, that the first scientific breakthrough was made in efforts to control the disease. Dr. John Enders and Dr. Thomas Peebles of Harvard University isolated a strain of measles virus from an 11-year-old boy, David Edmonston of Bethesda, Maryland. The Edmonston strain, grown in

cell cultures of human and animal tissues ever since, has provided the basic seed for vaccines later produced for research.

After successfully testing an attenuated live-virus vaccine on monkeys in 1957, investigators began field testing in Massachusetts schools in October of 1958. Within three weeks, all vaccinated children had developed protective antibodies with no serious reactions. Follow-up studies showed that their antibody levels had remained high.

Before its final approval, the live vaccine was given to about 25,000 school children, either alone or in combination with gamma globulin. A somewhat smaller number of children received the killed-virus vaccine.

In approving both vaccines for general use in March, 1963, Dr. Luther Terry, Surgeon General of the U. S. Public Health Service, issued a technical report urging that a measles vaccine be given to all children over nine months who have not yet had measles.

Hundreds of thousands of children are now receiving injections of live attenuated measles vaccine, and millions more will be immunized in the coming months. At the present time one firm, which played a major role in developing the Enders process into a clinically safe vaccine, has made available more than 750,000 doses of their live attenuated measles vaccine in this country alone. The vaccine is administered concomitantly with gamma globulin, thus affording children immunity against measles with only one visit to the doctor, and with little or no reaction. The immunity is expected to be permanent.

One danger still being encountered, however, is the complacency of American parents. Less than one-third of susceptible chil-

dren in the U. S. are being given the benefits of vaccines which provide protection against infectious diseases. It is the hope of the State Health Department that all children in Virginia be routinely vaccinated against measles by the time they are one year of age. With

the adequate control of poliomyelitis, the development and subsequent licensing of a live attenuated measles vaccine has marked for extinction another killer andcrippler of children.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Nov. 1963	Nov. 1962	Jan.- Nov. 1963	Jan.- Nov. 1962
Brucellosis	2	0	11	11
Diphtheria	0	2	0	13
Hepatitis	52	59	782	1092
Measles	193	84	8349	9386
Meningococcal Infections	4	9	83	69
Aseptic Meningitis	2	3	29	45
Poliomyelitis	4	0	22	8
Rabies (In Animals)	23	13	201	135
Rocky Mt. Spotted Fever	1	0	37	45
Streptococcal Infections	959	590	8669	6637
Tularemia	0	1	7	14
Typhoid Fever	1	2	9	16

Administrative Woes of New Drug Law

Nearly all (pharmaceutical) companies report that their costs have risen. Most of the additional expense is in the areas of research, packaging, labeling, advertising, and in meeting foreign competition. One company estimates an increase of seven per cent in research costs, due exclusively to additional paperwork. Another states it will have to destroy \$85,000 in non-complying packaging materials despite every effort to anticipate the regulations and minimize losses. Still another company had to reprint inserts for and repackage 450,000 items already in inventory or actually distributed when, in its judgment, the change demanded was minor, of questionable validity and could just as well have been made effective with new production. Because of the amount of information now required in advertisements, many companies fear they must now purchase multiple section ads where before smaller ads were sufficient, or give up some of their advertising. The requirement that the generic name be used every time the trade-mark is mentioned is anticipated to prove cumbersome and only time will reveal how costly and grotesque in appearance this type of display may prove to be.—Austin Smith, M.D., President, Pharmaceutical Manufacturers Association, to Federal Bar Association meeting, Washington, D. C., June 27, 1963.

EDWARD B. WHITE, Jr.

Comprehensive Mental Health Planning in Virginia

"In our judgment, it would be better to yield to the wishes of the community, at the same time making a public protest against the erroneous train of ideas by which they are deceived. This we believe, too, is the proper course, not only to avoid the false imputation to which we have referred, but for the special reason in addition, that in a republic, respect is always due to the opinions of the people."

The above paragraph might well be considered the cornerstone of the planning structure outlined for the State Mental Health Study Commission. It pinpoints the ultimate objective community acceptance of and treatment for the mentally ill—and it underscores the one problem which we consider to be the greatest obstacle in the path towards that goal: community attitudes.

In preparing Virginia's planning proposal, it was felt that perhaps some background information concerning the mental health movement in Virginia might be of interest and contribute somewhat to a deeper understanding of this proposal. In essence, the very first paragraph of this article meets that requirement. It is a direct quote from Dr. John Galt's "Essays On Asylums For Persons Of Unsound Mind", which was first presented to the Association of Medical Superintendents of American Institutions for the Insane, meeting in June, 1850! The fact that his concluding statement in the presentation is still a valid consideration in planning for the mentally ill is both interesting

and disturbing. It is interesting, if for no other reason, as an historical footnote. It is disturbing, because it illustrates—rather pointedly—the fact that over the period of 113 years community attitudes toward the mentally ill have—in reality—made precious little progress.

With this in mind, perhaps some consideration should be given to the progress that has been made in order to avoid the pitfall of pessimism. The Commonwealth of Virginia is not a "No-Man's Land" of mental health. It is a statistical fact that the first public hospital for the mentally ill was established by the Commonwealth at Williamsburg in 1773. This was later supplemented by the opening of Western State Hospital at Staunton in 1828. In present-day terminology, these were admittedly "custodial" institutions; but progress has been, and is being, made.

The current drive toward comprehensive mental health services began in 1942, when the Virginia General Assembly created the Department of Mental Hygiene and Hospitals. The Commissioner of the department is appointed by the Governor, with the approval of the General Assembly, and the department operates under the supervision of the State Hospital Board in administering the four state hospitals, a state sanatorium and 25 mental hygiene clinics for the mentally ill; two training schools for the mentally retarded; and the new Virginia Treatment Center for emotionally disturbed children. There are approximately 15,000 patients hospitalized in our institutions and the clinic case load runs into the thousands each year. The department employs over 4,500 professional and non-professional people and operates under a current biennium budget in excess of 46 million dollars, with an additional 10.2 million dol-

WHITE, EDWARD B., JR., *Information Director, Department of Mental Hygiene and Hospitals.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

lars earmarked for capital outlay improvements.

This answers the adjective questions of "which, what kind of, and how many?" but it does not begin to describe the adverbial answers of "how, when and where?" which are essential to any comprehensive planning. That's because the present answers are unsatisfactory. The "how" is frankly far too custodial; the "when" is a general "continuous"; and the "where" is simply a list of our state institutions. The purpose of the State Mental Health Study Commission is to elaborate upon and expand the "how, when and where" of Virginia's mental health services.

If we were asked to condense our statement of objectives, the summarization might well be reduced to two words: community involvement. This is both the foundation of and the prerequisite for community services to the mentally ill. It is upon this foundation and to meet this prerequisite that Virginia's planning proposal is designed. Perhaps it should be pointed out at this time that the State Mental Health Study Commission (or for that matter, Virginia's planning proposal itself) is in no way dependent upon, obligated to or connected with the recent flood of mental health legislation which has poured through Congress. Rather—and this is significant—the Federal portion of the funds used to finance the work of the Mental Health Study Commission were first appropriated by Congress in 1962. This was for the avowed purpose of enabling the various states to conduct a comprehensive study of their individual mental health programs so that both immediate and long-range plans could be formulated. Previous experience had indicated that the states were so inundated with the task of meeting present-day requirements that they had no resources to devote to long-term planning. The 1962 appropriations were designed to overcome this shortage.

Obviously, the personal interest and leadership of the late President John F. Kennedy was the catalyst that brought about much

of this latter day assault on mental illness. Certainly, this is true of the recent Congressional action in the field. However, the impetus for such an assault goes back to 1946, with the passage of the National Mental Health Act. This was given an added boost in 1955 with the creation of the Joint Commission on Mental Illness and its subsequent report, "Action For Mental Health."

This admittedly brief mental health chronology is included here for the purpose of clarifying a common misconception concerning Virginia's mental health planning. Despite the preponderance of such terms as "community involvement", and "community attitudes", and "community concern", and "community care", the State Mental Health Commission is not seeking to discover means whereby community mental health centers may be imposed upon the various localities in Virginia. Rather—and this is the crux of the entire situation—the Commission will endeavor to determine what should be done and what *can* be done in the care and treatment of the mentally ill and mentally retarded in Virginia.

The Commission's report must, of necessity, be based upon: (1) what the individual localities consider necessary; (2) what they consider desirable; and (3) what they are willing and able to do to achieve these measures. The study is not seeking public participation in or approval of a predetermined set of ideas. This will be no subsidized hey-day for professional do-gooders; nor will it be the means for "discovering" a pre-established formula for correcting the real and/or imaginary ills of our mental health program. In short, the planning study is designed to determine exactly what the people of this Commonwealth consider essential, desirable and practical in terms of mental health facilities in their individual communities. It will be a program compiled by the people of Waverly and Williamsburg, of Norfolk and Nansemond, of Arlington and Abingdon, of Richmond and Roanoke . . . a program to meet their requirements, based upon their resources.

Diagnosis of Histoplasmosis

The disease histoplasmosis is endemic in the State of Virginia, particularly in the western portion of the State where approximately 15% or more of its inhabitants will show a positive histoplasmin skin test. While by far the greater majority of patients infected with the Fungus *Histoplasma Capsulatum* develop a sub-clinical or an extremely mild pulmonary disease, there are, nevertheless, a small percentage who will develop more severe disease of the lungs or even a progressive type of infection. The sub-clinical or mild type of disease is seldom seen or recognized by the average practitioner and even in those acute pulmonary forms where the patient does go to the physician the organism is recovered only infrequently in the sputum. The patient with chronic active pulmonary histoplasmosis will eventually go to a physician and in these cases the isolation of the organism from the sputum is much more frequent. In the progressive form of the disease where the lesions occur in other parts of the body, it is common for the organism to be cultured from the blood, sputum, bronchial secretions, exudates, gastric washings, and bone marrow. In this particular condition the blood or bone marrow are probably the best specimens and incubation of these samples with a brain heart infusion glucose broth at 37° is usually successful in isolation of the organism. Other materials are usually inoculated on blood agar and one of the fungal media such as Sabaroud, the blood agar being incubated at 37° whereas the Sabaroud is kept at 24°. This differential temperature enables the technician to observe the mycelial phase of the culture which contains the typical tuberculated chlamydospores and to see the yeast phase as well. It is often useful to add penicillin and streptomycin to these media to inhibit any bacterial contaminants.

Mouse inoculation is also a valuable method for isolating this particular organism.

It is not always possible to recover the organism by culture, but it is possible, at times, to demonstrate the organism in tissue sections. The organism has been demonstrated in surgical specimens from the lung, liver, spleen, adrenal, lymph nodes, skin lesions, and in bone marrow sections. The organism has also been observed in bone marrow smears as well as smears of the peripheral blood although this is not very common.

If it is impossible to demonstrate the organism using culture techniques, serology is of value—a high titer or changing titer of complement-fixing antibodies usually being suggestive of recent contact. A positive histoplasmin skin test particularly in any person who previously had a negative skin test may also be helpful in establishing the diagnosis. The skin test antigen is prepared from sterile filtrates of broth cultures of the mycelial phase of the fungus. 0.1 ml. of a 1 to 1,000 dilution of the material is inoculated intradermally. A positive reaction is manifested in 24 to 48 hours by an area of induration of at least 0.5 cm. surrounded by an area of erythema. The skin test usually becomes positive within three to four weeks following clinical evidence of infection and remains positive for years and possibly for the lifetime of the individual. During the terminal stages of the disease the skin test, however, is often negative. The skin test antigen cross-reacts with blastomycin and coccidioidin but the reactions are generally smaller than that of the specific histoplasmin.

Complement-fixation tests using histoplasmin or whole or ground yeast phase antigen has given better results than the use of histoplasmin as the antigen. In acute pulmonary histoplasmosis antibodies are usually demonstrable by the third week of the disease and persist for several months. The titer

may be as high as 1 to 320. Recovery from the acute stage of the disease is followed by a corresponding decline in the titer of the complement-fixing antibodies. In chronic active pulmonary histoplasmosis the high titers may persist for years. Again, cross-reactions occur with blastomyces and coccidioides antigens but are of a lower titer than that of the homologous antigen. There is a small but significant percentage of individ-

*Division of Clinical Pathology
Medical College of Virginia*

uals with clinical histoplasmosis who have no demonstrable complement-fixing antibodies and another small group who have antibodies in a very low titer. It should also be borne in mind that in patients who have been repeatedly skin tested, positive titers due to the skin testing or even a rise in titer of complement-fixing antibodies may occur.

M. J. ALLISON, Ph.D.

Gourmet Dinner for Hospital Patients

A hospital in North Carolina's Piedmont region thinks it can raise a patient's spirits by way of his stomach.

Here's how it works: a twelve-ounce boneless strip steak—or perhaps a broiled lobster, king crab, or frog legs—is served with all the trimmings to the patient. The “trimmings” may include a baked potato smothered in sour cream and chives, buttered green broccoli spears, broiled tomato parmesan, and hot coffee topped off with a piece of banana or chocolate cream pie.

Steaks and frog legs are not normally permitted in a hospital's budget. But Rowan Memorial Hospital, a 231-bed hospital in this city of 22,000, has devised a plan that lets patients dine stylishly without getting out of bed.

Called a “gourmet dinner,” the plan is described in the November issue of HOSPITALS, Journal of the American Hospital Association.

For \$3.50, a friend or relative (or the patient himself, if he is starved for something out of the ordinary) can purchase a gourmet gift certificate which entitles the patient to a meal “comparable to one served in a luxury restaurant.”

From soup to nuts, the dinner is served on special china bordered with floral greens, complete with a tray cover and finished off with an elegant finger bowl.

Any patient not restricted in his diet can receive the special dinner, according to Edward Heyd, director of the hospital. The most appreciative diners are those patients who have been hospitalized for a long period of time and need something to cheer them up.

The patient can choose when he wants the special dinner to be served. Normally it is served during the evening dinner hour to minimize any interference with the hospital's daily meal routine.

The hospital, which normally permits patients to select their own meal from a regular menu, breaks even financially on the gourmet meals.

The plan has been particularly popular with well-wishers. “One well-known citizen had so many gourmet meals donated by his friends that he couldn't begin to eat half of them.” And one of the town's weight-watchers was swamped with tickets for gourmet dinners, presented by “understanding friends”.

The Medical Society of Virginia . . .

National Congress on Medical Quackery

The Second Congress on Medical Quackery, sponsored by the American Medical Association and the Food and Drug Administration, was held at the Sheraton Park Hotel, Washington, D. C., October 25-26.

The attendance this year was much larger than two years ago. The exhibits were splendid, and, I believe, all who attended came away with a greater realization of the scope and magnitude of this operation of Quacks, a clearer picture of the enormous job confronting Mr. Oliver Field, Director of the Bureau of Investigation of the AMA, and the Food and Drug Administration, and a comforting reassurance of the factual, painstaking work as well as the accomplishments of these two organizations dedicated to the safe-guard of the health and pocketbooks of our American people. The problem confronting physicians is one of constant alertness on our part in order to pick up activities of quacks either operating in our communities on a personal basis as well as through the mails, and incidentally, reporting such activities by them, with all available facts, to Mr. Oliver Field, Director, Department of Investigation, American Medical Association. Our next obligation is to make our patients quack conscious and this we can do by first keeping ourselves well informed along these lines, and second the

distribution, through our waiting room, of all literature—and a great deal is available on request—provided by the AMA at no cost to the physician, informing patients of the activities of quacks.

The best brochures on this subject are, "Beware of Health Quacks" and "Mechanical Quackery", published by the American Medical Association, and Publication No. 19, October 1963, a Catalogue of Fakes and Swindles in the Field of Health, published by the U. S. Department of Health, Education and Welfare, Food and Drug Administration.

In the days of the Golden West, the bandit stopped you at gunpoint and said, "Your money or your life". Today, the well dressed health bandit, highly educated along certain lines of human psychology and gullability of the ailing public, stops your patient at briefcase point and robs him of "his money and his life" because, in so many instances, he lures the unsuspecting ailing citizen into a sense of false security while he is taking the medication or treatment of the quack, until his diseased process advances to the incurable stage instead of the ailing individual seeking present available medical skill that might have cured his disease.

JOHN WYATT DAVIS, JR., M.D., *Chairman*
Public Relations Committee

Coincidence vs. Evidence in Drug Evaluation

Just what these new (FDA) regulations will do to the introduction of new remedies will not be apparent for some time. A reasonable guess is that fewer new drugs will be introduced and the prices of drugs will be higher because of the new costs added to the testing. The difficulty of separating coincidence from evidence is seldom appreciated. Common symptoms such as thrombophlebitis, skin reactions and headaches may be coincidental with the administration of various remedies. Intensive investigation may be necessary to separate the coincidence from the incidence.
—Morris Fishbein, M.D., in *Postgraduate Medicine*, June 1963.

Woman's Auxiliary

Annual Meeting

The 41st annual meeting of the Woman's Auxiliary to The Medical Society of Virginia was held on October 7th, 1963, in the Pine Room of the Hotel Roanoke.

The president, Mrs. A. B. Gravatt, presided. Mrs. Clyde Bedsaul gave the invocation followed by the pledge of loyalty to the Woman's Auxiliary to the American Medical Association.

Mrs. Earle Glendy, wife of the President of the Roanoke Academy of Medicine, welcomed the women, and Mrs. Michael Puzak of Arlington responded.

Mrs. Charles D. Bray, Jr., general chairman, made the convention announcements.

The secretary called the roll of officers, directors, committee chairmen, county presidents and presidents-elect. A motion was made and carried that the minutes not be read.

Mrs. Elias Margo, President of the Woman's Auxiliary to the Southern Medical Association, was unable to be with us. Mrs. Kalford Howard read her message entitled "Sing Along With Southern."

Dr. Fletcher Wright, Jr., President of The Medical Society of Virginia, spoke briefly.

Mrs. Eskridge gave the treasurer's report. The balance on hand is \$4,470.29.

The President's report was given by Mrs. Gravatt.

Mrs. N. M. Canter gave honor certificates from the A.M.A.-E.R.K. to the Richmond auxiliary for the largest contribution of \$167.68; to Northampton-Accomack for the largest per cent of increase—\$50.00; and to Northern Neck for the largest per capita contribution—\$7.61. \$1,756.14 was contributed by the entire State of Virginia.

Mrs. Malcolm Harris, delegate to the A.M.A. convention, gave an interesting report on the 1963 activities.

The Finance Chairman, Mrs. Walter Porter, read the new budget. It was adopted as recommended by the Board.

Mrs. Kalford Howard, Revisions Chairman, read the proposed changes to the By-Laws. They were adopted as recommended by the Board.

Mrs. William Hatcher of Roanoke reported for the Credentials committee. There were 55 registered delegates, 50 members and 21 guests present or a total of 126 registered.

In the absence of Mrs. William Grigg, nominating chairman, Mrs. Walter Porter read the proposed slate of officers.

President, Mrs. James Moss

President-Elect, Mrs. Nash Thompson

1st Vice President, Mrs. Walter Eskridge

2nd Vice President

Mrs. C. S. Armentrout

3rd Vice President, Mrs. Thomas E. Smith

Recording Secretary

Mrs. N. M. Canter, Jr.

Corresponding Secretary

Mrs. Peter Soyster

Treasurer, Mrs. Robert Norment

Directors, Mrs. A. Broaddus Gravatt, Jr.

Mrs. William Grigg, Jr.

Mrs. F. Clyde Bedsaul

There were no nominations from the floor, and the slate was unanimously elected.

Mrs. Fredric Delp of Roanoke read the Courtesy Resolutions.

Mrs. N. R. Pringle presided at an inspiring memorial service for our deceased members of the past year.

The meeting was declared adjourned.

MARIE NORMENT, *Recording Secretary*

Professional Courtesy

ONE of the oldest traditions of the medical profession is the provision of medical care to other physicians and to their immediate families without charge. In recent years this tradition has been discarded by some psychiatrists and a few other physicians have suggested that this concept should have been discarded with the horse and buggy. Each of us must re-examine how professional courtesy affects us, our families and our profession.

It is difficult for a physician to be objective in his decisions when he is emotionally involved with the patient. According to Osler "the physician who treats himself has a quack for a physician and a fool for a patient." Therefore, it is proper for a physician to call another physician whenever he or his family needs medical care. Before the days of specialization the physician patient could usually repay in kind for the services of the treating physician, but today such repayment is often impractical. This inability to repay a presumed obligation may cause guilt feelings with compensatory behavior patterns.

A gift is the most common method of repaying professional courtesy. Sometimes the giver is fortunate in selecting an item that the recipient would like to have but has not yet purchased. Often the gift is either something that the recipient already has or that he doesn't have because he does not want it. A gift of material goods or of emotional happiness with no attempt to repay, or to incur an obligation, is a true gift of the heart. Too often a present is not a true gift but is a substitute for money.

Each physician usually needs the help of a urologist at a time when he can afford to pay what the service is worth. The obstetrician, on the other hand, frequently gives his care at a time when the physician has difficulty in paying for basic necessities. Thus, if he gave what he could afford, the obstetrician might receive a bottle of whiskey and the urologist a sports car. However, if each is given what his services are actually worth they would receive the same.

Referring patients for consultation and treatment is another method of repaying professional courtesy. This is acceptable practice if the patient would have been referred to that particular physician anyway. It is wrong when another physician might have been more competent, more economical, or more convenient for the patient. Saying to the patient, "I am sending you to the surgeon who operated upon me" is intended to give the patient more confidence in the surgeon but he may wonder if the referring physician is discharging an obligation.

Recognizing the difficulty with gifts and referrals some physicians have turned to insurance as the means of repaying their medical care obliga-

tions. The incomplete coverage found in most policies causes frustration to both the patient and to the physician. The surgeon will be compensated but the pediatrician or the internist usually will receive nothing for their services. When a physician suspects a major illness there is usually no hesitancy in calling another physician. However, there is a tendency to neglect both himself and his family when the symptoms indicate a minor illness.

Physicians who treat by psychotherapy often repeat the statement that treatment is useless unless the patient pays for it. This statement has never been proven by controlled studies. If payment is necessary for a cure to be achieved is it not possible that high-priced placebo pills or a series of expensive injections of colored water might be just as effective? There is no evidence that paying surgical patients recover faster than non-paying surgical patients or that paying diabetic patients are any better controlled than those who do not pay. There are recognized differences between indigent patients and private patients, but these differences are largely due to incentive, intelligence, and environmental problems. Until we replace our repetitive and emotional pronouncements with controlled scientific data, we must say we do not know that payment is necessary for recovery.

Professional courtesy is one of the few things we can give and receive without being taxed. Current surveys indicate that the average physician performs four dollars worth of work in order to have one dollar in spending money after overhead and taxes are deducted. If the physician is to pay another physician four dollars he would first have to earn sixteen dollars. Thus it becomes obvious that this fringe benefit results in a considerable saving to the entire medical profession.

The outstanding physician in a community may become "the physician's doctor" and, if the community is large enough, he may find that professional courtesy patients make up a large portion of his practice. The rare physician who attains this professional status is entitled to, and usually does, charge more than other physicians for his services so he can continue to receive an adequate income. On the other hand, a physician who does general practice in a semi-isolated area may feel he is constantly receiving care that he cannot repay. The physician patient with a chronic illness often feels that he is imposing excessively on the time of the attending physician. These individual variations in giving and receiving balance out in the long run and should not influence the major objective.

The greatest compliment that one physician can pay another is to ask to become his patient. We cannot feed our families with compliments but compliments inspire us to work more intensely and longer so that we do a better job with more patients and thus profit in the end. To eliminate professional courtesy would be to destroy one of the privileges of being a physician.

JAMES M. MOSS, M.D.

Labels on Prescriptions

IN RECENT YEARS more and more physicians have requested that their prescriptions be labeled as to the contents. Each physician must decide whether the advantages of this innovation outweigh the disadvantages in his own practice.

There are several reasons for not telling the patient what the medication is. The drug may be a relatively inert and the real benefit due to psychotherapy. This type of medication is now used less than in the past, but placebos still have a significant place in our armamentarium. Some patients cannot accept the fact that their illness is psychosomatic in origin; they may refuse to take a sedative and yet be willing to take an antispasmodic. Self-treatment might be a greater problem when patients know what medicine they are taking; but, limiting refills by careful enforcement of our present pharmacy laws should prevent this. Articles in magazines and newspapers describing the complications which may follow the administration of certain drugs sometimes cause patients to discontinue their prescribed medication. More effective medical editing of such articles is needed to provide patients with accurate information.

The reasons for labeling prescriptions are also based upon what is thought to be best for the patient. When the patient is seen by a second physician, the treatment can be more scientific if he knows what previous medication has been used. This is especially important for patients taking medication for a chronic illness who see different physicians in the course of their travels. This is also important for patients with multiple conditions requiring simultaneous treatment by several physicians. When the patient is seen at home the physician does not have to rely upon his memory of previous prescriptions, but he can look at the bottles and know what the patient has been taking. When the physician is called on the phone because of a change in the patient's condition it is important that the physician be accurately informed of the medication being taken at that time. Sometimes a patient may develop a new or recurrent symptom that can be treated in an efficient manner by the administration of labeled medicine that the patient already has on hand. The better informed patient is usually more cooperative and is more likely to follow instructions. Because of the frequent occurrence of allergic reactions to drugs it is essential that patients know the contents of all prescriptions.

With continued medical progress and better education of the American people it is probable that all prescriptions will be labeled in the near future.

JAMES M. MOSS, M.D.

New Members.

Since the list published in the December issue, the following new members have been admitted into The Medical Society of Virginia:

Jack Preston Andrews, M.D., Richmond
Robert Harman Armstrong, Jr., M.D.,
Richmond
James R. Beaty, M.D., Richmond
Milton DeRohan Chalkley, Jr., M.D.,
Suffolk
Frederick Carr Davis, Jr., M.D.,
Richmond
Gustavo Garces, M.D., Alexandria
Ira Joel Green, M.D., Alexandria
James P. Harnsberger, M.D., Hot Springs
Heng-Tsui Po, M.D., Falls Church
James Byrd Johnson, M.D., Ewing
William Thomas Johnson, M.D.,
Virginia Beach
Evangelos N. Kotselas, M.D.,
Falls Church
William E. Laupus, M.D., Richmond
Leonard S. Levine, M.D., Springfield
John Oliver Martin, M.D., Falls Church
Hunter Holmes McGuire, Jr., M.D.,
Richmond
Joan Mason Meiller, M.D., Richmond
Richard Mudie Meiller, M.D., Richmond
Manuel Diaz Mendez, M.D., Richmond
Peter Miltiadis Mitsopoulos, M.D.,
Falls Church
George William Porter, Jr., M.D.,
Richmond
Laurie Earl Rennie, M.D., Richmond
Jerome Barland Roebuck, M.D.,
Petersburg
Edgar H. Rossheim, M.D., Norfolk
John Herndon Vansant, M.D., Norfolk

Dr. Mack I. Shanholtz,

Virginia State Health Commissioner, has been given the highest award of the Asso-

ciation of State and Territorial Health. At its recent annual meeting in Washington, he was presented the Arthur T. McCormack Award. The Award cites him for "25 years of meritorious service in the field of public health" and adds "His unselfish devotion to the ideals of sound public health practices and his constructive leadership have benefited the people of his state, the nation and this association."

Fredericksburg Medical Society.

Dr. John W. Painter will be the 1964 president of this Society. Other officers elected at a recent meeting are: president-elect, Dr. C. J. Robbins, III, and secretary-treasurer, Dr. J. R. Low. Dr. C. V. Cimmino is the retiring president.

Dr. William H. Keeler

Has assumed his duties as full-time director of public health for the City of Roanoke. For the past four years he has been district director of health for the City of Williamsburg and the counties of York, New Kent, Charles City and James City.

Dr. Betty Willis Whitehead

Has been appointed college physician and professor of health education at Sweet Briar College, effective July 1, 1964. She will succeed Dr. Carol M. Rice who is retiring. Dr. Whitehead has been in Chatham since last summer and has been school physician for Chatham Hall since September. She and her husband, Dr. Philip Whitehead, had been located in Seldovia, Alaska, and since his accidental death last March, she carried on the work alone before returning to Chatham with her five children.

Medico-Legal Workshop.

The regional medico-legal workshop for medical examiners, pathologists, physicians,

Commonwealth's attorneys, and homicide investigators will be held on January 23rd from 8:30 A.M. to 4:30 P.M., in the New Rehabilitation Center of the Roanoke Memorial Hospital Annex, Roanoke.

This program is acceptable for six accredited hours by the American Academy of General Practice.

The Virginia Diabetes Association

Held an interim meeting on October 7th at the Hotel Roanoke. The chief subject of discussion was pertaining to Diabetes Detection Week which was held in November. Other discussion related to the joint meeting with the Academy of General Practice on May 8th in Norfolk. Dr. Randall Sprague of the Mayo Clinic will be the guest speaker at this meeting.

Application was received and acted upon favorably considering the formation of a Richmond Lay Diabetes Association.

Dr. A. L. Wolfe, Roanoke, is president of this Association and Dr. L. Benjamin Sheppard, Richmond, secretary-treasurer.

American Triological Society.

The Southern Section of this Society will meet in Washington, D. C., January 31 and February 1, at the Shoreham Hotel, under the chairmanship of Dr. F. H. McGovern, Danville. Doctors interested in otolaryngology are invited to attend.

Mary Washington Hospital Staff.

Dr. L. F. Moss, Fredericksburg, will succeed Dr. W. D. Liddle as president of the medical staff of this hospital. Dr. G. W. Jones is president-elect and Dr. J. L. Smoot, secretary-treasurer.

The Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, will hold its thirty-seventh Annual Spring Congress in ophthalmology and

otolaryngology and allied specialties April 6th through the 10th.

Associates Wanted.

Generalist, Richmond, Virginia, environs. Clinic-type practice. Will teach or may do limited surgery and EENT if interested. Salary with extras first, then partnership. Send complete biography to #80, care the Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obstetrician-Gynecologist.

Group of nine physicians need an obstetrician-gynecologist. Prefer Board Certified or Board eligible physician. Write #75, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Medical Illustration Service.

We will prepare art-work, charts, graphs and diagrammatic material to your written specifications for papers, lectures or other needs. Rapid, neat service. Reasonable rates. Write N. Apgar, 2207 Buford Road, Richmond, Virginia 23226. (*Adv.*)

Wanted.

Physician for staff position in medical department of chemicals company with approximately 4,000 employees; liberal benefits; salary commensurate with experience and qualifications; State license required; age limit 65. Write E. Q. Hull, M.D., Medical Director, P. O. Box 8004, South Charleston 3, West Virginia. (*Adv.*)

Office Space Available.

In Medical Arts Building, Richmond. 764 square feet on 5th floor. City parking lot just across street. Contact Dr. H. Ward Randolph, 4600 Monument Avenue, Richmond, or phone El 9-1697. (*Adv.*)

Obituaries

Dr. Ramon David Garcin, Jr.,

Richmond, died November 8th, at the age of sixty-four. He graduated from the Medical College of Virginia in 1929. Dr. Garcin specialized in internal medicine in hospitals in Brooklyn, New York, and remained in practice there until 1941. After World War II, he returned to Richmond. He was a Mason, a member and past president of the East Gate Lions Club and a member of the East End Business Men's Association. Dr. Garcin had been a member of The Medical Society of Virginia since 1941.

His wife and two daughters survive him.

Dr. Putney.

"If never a sorrow came to us, and never a care we knew;
If every hope were realized, and every dream came true;
If only Joy were found on earth, and no one ever sighed,
And never a friend proved false to us, and never a loved one died,
And never a burden bore us down, soul sick and weary, too,
We'd yearn for tests to prove our worth and tasks for us to do—"

"When you get to know a fellow, know his joys and his cares,
When you've come to understand him and the burdens that he bears,
When you've learned the fight he's making and the troubles in his way,
Then you find that he is different than you thought him yesterday—"

At Darlington Heights, Virginia, on June 1, 1893, there came to Ellis Walker Putney and Alice Virginia Putney, a set of twins, their eighth and ninth children; one of these was Charles Walker Putney. His twin died shortly after birth, as did four others previously. Childhood was spent at hard work on the farm and money was at a premium. His father didn't believe in education and he received some "egg money" from his mother for the necessities of life, together with what he made with tobacco—going to school part of a year at a time, graduating from high school at 21 years. He entered Hampden-

Sydney in 1915 and the Medical College of Virginia 1917-1921, graduating at 28 years. During vacations and off hours, he had odd jobs, paying his way through medical school. At 23 years, he had poliomyelitis, which left him with the left leg weak, smaller and shorter than the other and a limp.

Following graduation, he interned at Grace Hospital, New Haven, Connecticut, and on December 3, 1921, married Louise Gathright of Richmond. Dr. Putney started practice at Covington in 1922 and stayed nine months, coming to Staunton in 1923. He saved \$3000 to go to the University of Pennsylvania, 1927-1928 for graduate training, saved some more money and went to Vienna in 1931 for study. The pattern changed after this and each year he took courses of about two weeks' duration as continued education.

The house he bought, he lived in and paid for, in 1935 and on June 10, 1936, his only child, Charles Walker Putney, Jr., arrived.

As the years came and went, Dr. Putney became established in the minds and hearts of his patients; for they loved him as he never turned down a call to a needy patient at any time. He was sympathetic, kind and generous with his services, working day and night for their care and comfort. He was a quiet, generous person, with his time and money, where it was needed. A frugal man—business-like about everything and especially generous to his church.

Dr. Putney belonged to the necessary medical societies—a Kiwanian since 1923—Shriner, Editors and Authors Association, having published articles on medicine and poems.

Dr. Putney was president of the Augusta County Medical Society 1952-1953 and rewrote the By-Laws.

His hobbies were architecture and building homes and the blue-prints for his many houses in Selma were from his drawing-board. He loved beautiful things. Travel and fishing were enjoyed and it was from his last trip that he arrived in Staunton in May 22, 1962 and developed a coronary. Complications began from which he never recovered and on March 16, 1963, he turned over in bed and lay down to rest.

There will be many more doctors but none more dedicated than Charles Walker Putney. I believe that his life's idea, path and journey, for his place in Society, is crystal clear in

My Creed

To live as gently as I can;
To be no matter where, a man;

To take what comes of good or ill
and cling to faith and honor still;
To do my best, and let that stand
The record of my brain and hand.
And then should failure come to me,
Still work and hope for Victory.

To have no secret place wherein
I stoop unseen to shame or sin;
To be the *same* when I'm alone
As when my every deed is known;
To live undaunted, unafraid
Of any step that I have made;
To be without pretense or sham
Exactly what men think I am.
To leave some simple mark behind
To keep my having lived in mind;
If enmity to aught I show,
To be an honest generous foe,
To play my little part, nor whine
That greater honors are not mine
This, I believe, is all I need
For my Philosophy and creed.

My feet are wearied, and my hands are tired,
My soul oppressed—
And I desire, what I have long desired—
Rest—only Rest.

BE IT RESOLVED that these thoughts be made a part of the permanent records of The Augusta County Medical Society in memory of Charles Walker Putney, one of its distinguished members.

BE IT FURTHER RESOLVED that a copy be sent to his wife.

BOYD H. PAYNE, M.D.

Dr. Lilly.

WHEREAS, The Members of the Richmond Academy of Medicine desire to record their deep sorrow in the unexpected death on July 27, 1963, of Dr. Adlai Stevenson Lilly in the seventieth year of his life, and

WHEREAS, He was a member of the Richmond Academy of Medicine in good standing, having faithfully discharged his duties and supported this body in all its endeavors for many years, and

WHEREAS, His contributions to his chosen field were many and his loss to the medical profession; to the state and community as one of its valued citizens will be long felt, and

WHEREAS, Dr. Adlai Stevenson Lilly will be remembered as a gentleman who performed his duties with such ability and humility that he won the respect and admiration of all who knew him; careful and thorough was he in his survey of patients, always seeking the best for those under his care in both management and disposition, and

WHEREAS, He had been an active member on the

staff of the Retreat for the Sick and the Richmond Memorial Hospital, serving the latter institution diligently as Secretary of the professional staff for the past two years,

THEREFORE BE IT RESOLVED, That we, the members of the Richmond Academy of Medicine, hereby join those who knew him personally, and by reputation, in paying tribute to his life and memory and be it

RESOLVED, FURTHER, That we join the members of his family in their grief and express to them our sympathy in their great loss, as well as our deep and sincere appreciation for his faithful and unselfish service; and that a copy of this resolution be spread upon the minutes of this meeting as a Memorial and that a copy also be sent to Mrs. Lilly as an expression of the heartfelt sympathy of the Richmond Academy of Medicine.

WILLIAM F. BRYCE, M.D.

E. LATANE FLANAGAN, M.D.

SIDNEY G. PAGE, M.D., *Chairman*

Dr. Miller.

It is with regret that we record the death of Dr. Maurice Jesse Miller at Norfolk General Hospital on May 29, 1963. He was 61 years of age and had been a practicing physician for more than 30 years.

Born in Norfolk, Dr. Miller was a graduate of Maury High School and after graduating from the University of Virginia Medical School in 1926, where he was a member of Alpha Omega Alpha, he interned in St. Vincent De Paul Hospital in Norfolk and later entered the private practice of medicine in this city.

During World War II, Dr. Miller served in the Pacific Area and afterwards maintained an active interest in the Naval Reserve in which he held the rank of Captain.

For many years he was an active member of the Staff of St. Vincent's Hospital where he served as Chief of a Medical Service and gave freely of his time in the clinic and on the wards, and in working with the interns and house physicians. His association with the house staff was a very close one. Although Dr. Miller had a large general practice his special interest was in the field of Internal Medicine and he was held in high esteem by his patients and others privileged to know him.

Dr. Miller's office was for many years on 35th Street and he was one of the leaders in the 35th Street Businessmen's Association serving at one time as its president. He was a member of Ohef Sholom Temple, the Norfolk County Medical Society, The Medical Society of Virginia, and a member of the Staffs of the Norfolk General Hospital, the De Paul Hospital and Leigh Memorial Hospital.

BE IT RESOLVED, by the Norfolk County Medical Society on this 1st day of October, 1963, that we express our sincere and heartfelt sympathy to the bereaved family of our departed colleague, to whom this memorial shall be sent, a copy to be made part of the permanent records of this Society, and a copy submitted to the Virginia Medical Monthly.

WILLIAM L. TALIAFERRO, M.D., *Chairman*
S. B. MIZROCH, M.D.
WILLIAM R. TYSON, M.D.

Dr. Weitzel.

Dr. John Straub Weitzel, of Richmond, died on May 1, 1963, at his home. He was seventy-six years of age. He is survived by his wife and two sons.

Dr. Weitzel was born in Shamokin, Pennsylvania, on January 28, 1887. He attended the public schools of Shamokin and graduated from high school in the class of 1904. He received his medical education at the Medical College of Virginia obtaining his Doctor of Medicine degree in 1910.

Following graduation, he interned at the Memorial Hospital in Richmond, did work in nose and throat at the New York Post Graduate School and completed a course on eye at the New York Eye and Ear Hospital. Following this, he engaged in the practice of medicine in Richmond until 1917 at which time he entered the army, completed a course in neurosurgery at the New York Neurological Institute and served on active duty in neurology and neurosurgery at Cape May Army Hospital.

Following World War I, he completed a residency in pediatrics at the New York Nursery and Child's Hospital and then returned to Richmond to resume private practice in pediatrics.

Dr. Weitzel's interests and accomplishments were many and varied. He was a professional musician from 1904-1910, and through the years never lost his appreciation of music. He lectured in pediatrics at the Foreign Missions Presbyterian Seminar, at the School of Social Work and Public Health of the College of William and Mary, and the Schools of Nursing of Grace Hospital and the Retreat for the Sick.

He organized the first Child Welfare Station in Richmond in 1917, was pediatrician to the Out-patient Department of the Medical College of Virginia from 1919 to 1930; served as pediatric consultant at Grace Hospital and The Richmond City Home and was visiting pediatrician at the Medical College of Virginia.

For many years he was an active member of the Richmond Academy of Medicine, Richmond Pediatric Society, Virginia Pediatric Society, and the American Academy of Pediatrics. He was a member of the State Committee of the American Academy of Pediatrics in Study of Child Services in Virginia, published in 1948, and took a very active part in this study.

Dr. Weitzel was a man of unbounded energy and spared no effort in his work for the best interest of those under his care. He was a very astute clinician with excellent clinical judgment and diagnostic acumen. Before the days of chemotherapy and antibiotics the results of his care and treatment of both well and sick children were outstanding.

He made good use of the older methods of supportive therapy but was alert to changes and quick to use new drugs and therapeutic measures of proven value.

After careful study of his patients he was quick to reach his conclusions and acted promptly and decisively on the basis of his findings.

He had the capacity of inspiring the parents of his patients with confidence and securing their complete cooperation. He brought both physical benefit and emotional comfort to those he served.

Dr. Weitzel was unostentatious, but always ready to lend a helping hand to the younger doctors and to assist in any worthwhile project.

WHEREAS, Dr. Weitzel practiced medicine in Richmond for fifty-three years and gave freely of his services to his patients and the organizations with which he was connected,

AND WHEREAS, he worked cooperatively and helpfully with his fellow practitioners in a way that earned their respect for his ability as a children's doctor,

AND WHEREAS, he was loved and admired by those he served,

THEREFORE, BE IT RESOLVED that we record our sorrow at his passing and convey to his family our heartfelt sympathy in their loss of a devoted father and husband.

BE IT FURTHER RESOLVED that a copy of these resolutions be sent to his family and a copy be published in the Virginia Medical Monthly and also be recorded with the minutes of the Richmond Academy of Medicine.

JAMES B. STONE, M.D., *Chairman*
SAMUEL A. ANDERSON, JR., M.D.
JOHN PAUL JONES, M.D.

Guest Editorial

The Continuing Need for Physicians in Rural Virginia

THE NEED FOR FAMILY PHYSICIANS in rural Virginia has never been as great as it is today. The opportunities for physicians to practice high quality medicine in modern facilities where they are needed, wanted and will be supported, in any part of Virginia, are almost unlimited. Yet there appears to be less interest in general practice today among medical students and interns than previously.

The prospect of not being able to help meet the physician needs of rural Virginia is of the utmost concern to the Virginia Council on Health and Medical Care. If we fail, serious consequences can result. The door to government control of physicians and medicine can be forced open by the need and demand of our rural population for medical care if in the voluntary free enterprise way we are not able to meet the crisis. Where needs are not met through local initiative and ingenuity, experience has shown that politicians and an empire building government, can take over, promoting programs of their own choosing, most of which are foreign to the free enterprise philosophy which has made America great. The problem of supplying rural areas with adequate medical care must be solved within the framework of voluntary action if we are to preserve free medicine as we know it today and want it tomorrow. This is important too if we are to maintain the high quality of medical practice which has brought about such dramatic progress in medicine in the United States during recent years.

Since 1950 the Virginia Council on Health and Medical Care has administered a Physician Referral Service with the cooperation of The Medical Society of Virginia, the Medical College of Virginia, the University of Virginia, the State Department of Health, the State Board of Medical Examiners, and the American Medical Association. The service has grown steadily over the years, and has been cited by many physicians who have used it as the most active and effective service among the many state services they have used. The Virginia Council serves as a clearing-house for communities needing physicians and doctors looking for suitable locations to practice.

The following tabulation of the Supply and Demand of General Practitioners and Specialists shows how the demand has increased and the

number placed decreased, and therefore why the Virginia Council on Health and Medical Care is concerned with the situation as it exists today.

TABLE SHOWING SUPPLY, DEMAND AND PLACEMENT OF GENERAL PRACTITIONERS AND SPECIALISTS 1954—SEPTEMBER 15, 1963
AS REFLECTED BY THE PHYSICIAN REFERRAL SERVICE OF THE VIRGINIA COUNCIL ON HEALTH AND MEDICAL CARE

	1954	1955	1956	1957	1958	1959	1960	1961	1962	as of Sept. 15 1963
G.P.'s AVAILABLE as of Dec. 31 in year stated	86	59	49	79	75	46	61	55	66	69
OPPORTUNITIES FOR G.P.'s as of Dec. 31 in year stated	32	65	65	42	54	55	57	70	80	85
G.P.'s LOCATED during year stated	31	25	29	31	21	32	22	25	14	16
SPECIALISTS AVAILABLE as of Dec. 31 in year stated	85	67	88	94	81	82	86	101	115	200
OPPORTUNITIES FOR SPECIALISTS as of Dec. 31 in year stated	42	58	50	67	54	60	48	70	83	72
SPECIALISTS LOCATED during year stated	4	6	16	10	5	10	3	9	11	7

There was a time when the Virginia Council could almost guarantee that a community could be successful in attracting a family physician if certain basic procedures were followed. This statement must now be modified in light of the present supply and demand picture.

As an organization which concerns itself with the broad fields of health and medical care, the Virginia Council recognizes the importance of the availability of family physicians for rural areas as being basic to the good health and medical care of those areas. The discouraging supply and demand picture is further reason for the necessity of stepping up the activities of the Council's Physician Referral Service.

Over a period of years contact through correspondence has been maintained with third and fourth year medical students at the Medical College of Virginia and the University of Virginia. The same has been true with interns and residents, both those who have graduated from our Virginia schools and those who have come to approved programs from out-of-state medical schools. An opportunity has been given a member of the Council's staff to lecture to medical students at our two State-supported medical schools.

With the cooperation of the Deans of Medicine in eight of the eleven medical schools in states neighboring Virginia, letters were sent to the fourth year medical students in those schools and to their 1962 graduates who were interning. These students and physicians were urged to consider general practice, settle in Virginia, and give the Virginia Council the chance to help them find suitable locations. It is hoped that in the future we will see some results from this letter, as the physicians become available for practice.

The Virginia State Board of Medical Examiners provided the Council with the names and addresses of the physicians who received Virginia licenses in June, 1963, so that they could be contacted and encouraged to consider Virginia locations, and use the Council's service. This letter brought a good response but those coming for help were mostly specialists and many of them were foreign trained physicians. The demand for these doctors is limited.

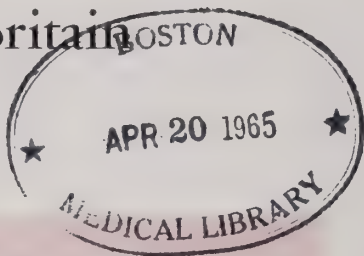
During the Christmas vacation period, December, 1962, four second year medical students from the Medical College of Virginia were taken on a day long trip to visit family physicians practicing in rural areas. Physicians practicing in pairs, one in a solo practice, one in a solo doing some industrial medicine, and a small modern rural hospital were visited. At least an hour was allowed for each stop. Lunch was provided by the hospital, and the administrator answered many questions and took the students on a tour of the hospital. The medical students indicated that this was their first exposure to general practice. They were impressed with the quality of medicine they observed, and with the excellent physical facilities in which the physicians practiced. It is hoped that future trips can be arranged and that in time many medical students can benefit from a similar exposure to general practice.

The Virginia Council on Health and Medical Care stands ready to consider and develop other techniques for helping to meet the medical care needs of our rural people. It is hoping in the near future to broaden its contact with medical students at the Medical College of Virginia and the University of Virginia in an effort to expose them to general practice as an important part of the total practice of medicine which they should consider along with specialty opportunities, research, public health and the like.

Helping people in rural areas to help themselves attract good medical care is essential to the security of those areas, to their healthy "climate" or potential for attracting new industry, to their local economy and to all phases of community life. A physician in a rural area is the keystone upon which most health activity depends for its stability and strength.

EDGAR J. FISHER, JR., *Director*
Virginia Council on Health and Medical Care

The Problem of Carbon Monoxide Poisoning in Great Britain



A. KEITH MANT, M.D.
London, England

Accidental death as well as suicide from carbon monoxide poisoning is not infrequent. Although all aspects of the problem are not the same in this country and Great Britain, we can profit from the experience reported here.

THE PROBLEM of carbon monoxide poisoning in Great Britain arises largely from the fact that the illuminating gas is prepared artificially from coal and contains a high percentage of carbon monoxide, varying slightly in different areas, but usually ranging from 10-12%.

Figure I illustrates the enormous increase

DEATHS FROM COAL GAS IN 5-YEAR PERIODS
(All Carbon Monoxide up to 1944)

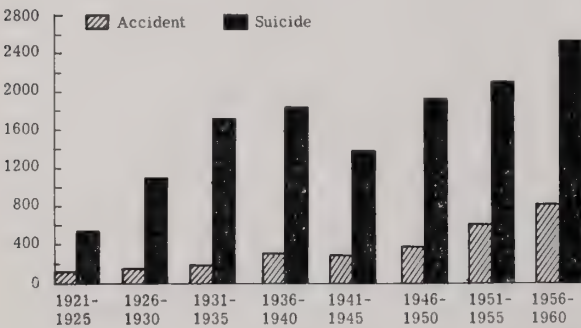


Fig. 1

in cases of poisoning from coal gas, both from deliberate and accidental poisoning

A. KEITH MANT, M.D., *Lecturer in Forensic Medicine, Guy's Hospital, London; A. D. Williams Distinguished Scholar at Medical College of Virginia, Richmond, Virginia, 1963; Paper read to the Medical College of Virginia, September 13, 1963.*

over the last forty years and except for a brief fall during the war years, the annual figures have risen and continue to rise at an alarming rate.

As the principal cause of poisoning in Great Britain, both accidental and deliberate, carbon monoxide has far outstripped its nearest rivals—barbiturates and aspirin—and accounts for some 69% of all cases of poisoning. In Virginia the comparable figure is 25%. (Figure II)

DEATHS FROM POISONS—1961
Total: 5,366

Poisons	Accidental	Suicide
Gases	1014	2711
Barbiturates	303	787
Aspirin	67	223
All Corrosives	12	43
Cyanides	2	26
Morphine, etc.	3	10
Strychnine	1	6
Arsenic	1	3

Fig. 2

With regard to the 2,700 odd suicides by coal gas, it can be reasonably argued that many of these would have used some other method of self destruction if coal gas had not been so handy. The major problem arises from the 1,014 persons who were returned in the Registrar General's Report as having died from accidental carbon monoxide poisoning. These words are used with emphasis as experience is universal that in areas where the coroner orders routine autopsies on all cases of sudden death, many totally unsuspected cases of carbon monoxide poisoning are discovered by the pathologist. As routine autopsies of this nature are only performed in the most heavily populated areas of Great Britain, the actual figure for the country can confidently be assumed to be

well in excess of the 1,014 cases shown. This observation applies especially to deaths from carbon monoxide poisoning where the source is not the simple escape of coal gas. My own figures in this form of carbon monoxide poisoning, which are paralleled by other medico-legal pathologists,¹ show that the ratio of non-coal gas carbon monoxide poisoning to coal gas poisoning is three times higher than reflected by the Registrar General's return. It is these cases which are not peculiar to Great Britain but which constitute a world-wide problem.

With this marked discrepancy between the figures collected by pathologists in areas where routine autopsies are carried out on most sudden deaths and the annual figures reported by the Registrar General, it is pertinent to consider some of the reasons why cases of carbon monoxide poisoning may be missed.

Firstly, a doctor in Great Britain does not have to see a body after death when certifying a cause of death unless there is to be a cremation. Secondly, the signs of carbon monoxide may be very difficult to detect especially in an elderly patient and this accounts for the number of unsuspected cases discovered at autopsy, even when a doctor has seen the patient after death.

Carbon monoxide combines with haemoglobin to form the relatively stable carboxy-haemoglobin. This pigment imparts a bright pink colour to the blood and tissues, the intensity of the colour being related to the degree of saturation of the blood with carboxy-haemoglobin. This pink colour of the blood is easy to see, even in concentrations far below the lethal saturation, in young adults and children, but in the elderly where the skin is becoming atrophic, even lethal concentrations may be hard to detect. The light by which the body is examined is important. Bright daylight is ideal; failing this, a good source of white artificial light. The colour temperature of some fluorescent lighting may mask the colour completely. The colour can only be confused with highly oxygenated capillary blood seen sometimes

in cyanide poisoning and after refrigeration. Signs of anoxia, such as agonal vomiting, urination and defaecation are usually present and these may suggest carbon monoxide poisoning to the examining physician.

The causes of accidental coal gas poisoning are at once clear from the series of figures published by different medico-legal pathologists.² The principal underlying reason for the accidents is old age. The Registrar General's returns and the figures recorded by individual pathologists all show the same trend and the sharp rise which has occurred in recent years would appear to be due to the increase in the number of old people. The chief factors for poisoning are forgetfulness coupled with partial or complete loss of one or all of the special senses, in order of importance, smell, hearing and sight. The most common finding is that an old person is found dead in his house, not necessarily in the same room as the source of the escaping gas, and that gas is coming from an unlit burner often beneath a kettle or saucepan. In the cold weather many old persons use their gas ring or ovens as space heaters and may omit to light one or more of the jets they have turned on. Inquiries frequently reveal that the deceased had previously, on one or more occasions, turned the gas on and omitted to light it. Loss of smell and hearing is common in this group. Some die because they are confused by concomitant acute natural disease and an even smaller group because they are under the influence of drugs or alcohol. Curiously enough it is only rarely that children die from playing with the gas taps.³

I do not intend to enlarge upon this aspect of the problem but to merely quote one case which illustrates how easily this type of accident may escape detection where the escape of coal gas is minimal.

Richmond upon Thames lies southwest of London and is a popular town for old people to reside upon retirement. They take up residence in hotels and boarding houses. In this case an active lady of 87 years took up residence in a hotel six weeks before she died.

Part of her daily activity consisted of a two-hour walk. The day before she was found dead in bed, she stayed in her room suffering, as she said, from a "bronchial cold". She was registered with a local doctor who had never seen her in life, but who came around and certified her death. He inferred that death was natural but was unable to issue a certificate as he had not seen her before, so the death was reported to the coroner. The faint smell of gas in the room was noticed neither by the doctor nor the hotel staff. Death was due to carbon monoxide poisoning. Investigation of the room by the gas engineer elicited two small leaks, one from an old gas lighting point now sealed off behind the wall plaster and the second from faulty flexible tubing connected to a fire, which had never been used by the deceased. The concentration of gas in the room could hardly have reached the minimal lethal concentration and as the old lady spent much time outside her room and kept the window open at night before her cold, she never inhaled a fatal amount. The material point of this case is that during the previous few weeks two old ladies, who had had the room in succession, had been found dead in bed and as the doctor had seen them both after their arrival at the hotel, he did not hesitate to issue death certificates that they had died from natural causes.

Coal gas poisoning is peculiar to countries who have no supply of natural gas, but carbon monoxide poisoning from the incomplete combustion of fuel is a universal problem.

Carbon monoxide gas is liberated when any combustion is not 100% efficient. When the products of incomplete combustion accumulate, fatalities occur. It is not disputed that most people are aware that carbon monoxide is a poisonous gas, but it is abundantly clear that very few indeed appreciate how poisonous it is.

This type of carbon monoxide poisoning may occur in fires, even minor ones, and in houses, house trailers or bungalows where some form of combustion apparatus is used.

In Great Britain, proportionally most cases are seen in house trailers.

The victims of this type of carbon monoxide poisoning fall into much lower age groups proportionally than those due to the simple escape of coal gas. The causative factors are numerous and in any one case more than one factor frequently operates.

In Great Britain the water is usually heated by a solid fuel combustion stove sited in the kitchen. These stoves commonly have a damper to control the outflow of air at the top of the stove and a regulator to control the draught at the base. The chief causes for the accidental release of carbon monoxide from this type of apparatus is the partial or complete obstruction of the chimney or flue by fallen soot, debris or birds' nests, cracks in the chimney allowing the escape of fumes or a badly sited chimney. The partial obstruction of the flue may not be dangerous whilst there is adequate draught and air change, but if ventilation is so restricted as to cut down the air change, or an adverse wind prevents the free escape of fumes from the chimney, or when there is no atmospheric air movement at ground level such as one sees during a fog, the boiler system may become lethal.

In house trailers and bungalows the source of carbon monoxide is frequently a flueless kerosene stove or butane fire. Even kerosene camp stoves may cause death if used for some time in an unventilated house trailer.

When one enters a room or building where there has been a lethal escape of fumes, one may sometimes smell the fumes or notice a heavy sickly odor. If the appliance has no flue, there will be a deposit of carbon not only upon the appliance but frequently also around the room or house trailer itself. Figure III shows a heavy deposit of carbon beneath the element of a butane gas fire. This fire was used in an unventilated house trailer and caused the death of the occupant from carbon monoxide poisoning.

Although carbon monoxide inhalation during conflagrations might be thought outside the scope of this paper, it is nevertheless,

of great medico-legal significance and demands some consideration.

From time immemorial criminals have used fire to dispose of the remains of their victims and in any case where a man was alive when exposed to fire, one may expect his carboxy-haemoglobin to be raised, however fierce the fire. Recent work in Great



Fig. 3

Britain indicates that carboxy-haemoglobin levels of over 5% are significant.⁴ Persons who die in fires apparently from burns have lethal or near lethal concentration of carboxy-haemoglobin. In cases where a car overturns and immediately catches fire killing the occupants almost at once, carboxy-haemoglobin levels of over 40% are not rare. In one case a man committed suicide in the open by pouring gasoline on a pile of leaves, laying on top and igniting the heap. His head was unburned but his carboxy-haemoglobin was over 40%.

There are also a number of persons who die from carbon monoxide poisoning in fires although they have no burns upon their bodies.

In one case an old lady was found dead in a large sitting room some way from two tapestry chairs, which had caught alight. The fire had been extinguished before it had

spread. It was thought that she might have had a heart attack and the distinct pink colouration of the body was missed by the physician who certified death and later by a professor of pathology and his senior assistant. Autopsy was negative for physical disease.

After the war a number of house trailer sites were opened to ease the housing shortage. As the climate in Great Britain nowhere approaches yours in Virginia, it is not surprising that some house trailer dwellers deliberately seal the permanent perforated zinc ventilators to exclude all draught. When the draught proofing of the house trailer is efficient, there will be only minimal air change taking place and the burning of any fuel will become dangerous after a time. In a popular type of residential house trailer, which is usually of some 500 cubic foot capacity, it may take several hours before the atmosphere becomes so vitiated that the burning fuel evolves a dangerous volume of carbon monoxide.

In one case a young man, who lived in a house trailer, had not been seen for five days, and his brother informed the police, who broke into the house trailer. On entering they found that the butane gas fire in the sleeping compartment was still burning with a smoky flame, which cleared at once upon the admission of fresh air through the open door. There was a heavy deposit of carbon beneath the element of the fire. The deceased, lying under four blankets and three overcoats to keep out the September cold, was very decomposed. No blood was present in the heart or vessels, but a sample of blood-tinged fluid from a pleural cavity contained a high saturation of carboxy-haemoglobin.

This case emphasized the stability of carboxy-haemoglobin during post-mortem decomposition. This property was first described by Thomas Stevenson in 1889⁵ and has since been confirmed by many writers.⁶ It was particularly pertinent in a recent case where the victims of the accident were a Guy's Hospital trained dentist and his wife.

The couple had taken a holiday bungalow in Portugal and one morning they were both found dead in the bathroom in which there was a gas geyser. They had apparently been engaged in washing clothing about the time that they died. Both had vomited. They were examined by a pathologist, who certified the cause of death as shellfish poisoning, although there was nothing to substantiate this conclusion beyond the fact that they had eaten shellfish the previous day. A London pressman, who was holidaying in the same area, made some inquiries and as he had heard of several similar cases in the coroners' court, got in touch with Professor Keith Simpson at Guy's Hospital. After considerable activity the bodies were eventually exhumed and returned to Britain six weeks later and sent to Guy's Hospital, where the bright pink colour of the tissues was still apparent and carbon monoxide poisoning was confirmed by toxicological examination. The South London Coroner held an inquest as the bodies had been brought under his jurisdiction and arrived at a verdict of accidental death. This verdict meant the difference of \$50,000 to the children of the deceased.⁷

In another case a man and wife had a weekend bungalow on the river. As they had not been seen for two days, a neighbor broke into the bungalow and found the man dead in bed and his wife deeply unconscious on the floor beside him. The source of the carbon monoxide in this case was a small kerosene burner used both as a doorstop between the kitchen and the bedroom and also to warm a kettle of water during the night so that it could be quickly boiled for the early morning cup of tea. The top of the kerosene burner and the bottom of the kettle were heavily coated by carbon. The first I heard of the case was when the hospital to which the woman had been admitted phoned me up, because, as they put it, they had admitted a deeply unconscious patient in her night attire and there were burns all down one side of the body and yet no damage to her clothing. The lady was, of course, ex-

hibiting the trophic bullae, which may appear on contact surfaces of persons who are deeply unconscious from natural disease or narcosis.

Another feature of this case was that the dog, also dead from carbon monoxide poisoning, was found with its nose pressed against the underside of the outside door. In most cases of carbon monoxide poisoning arising from the escape of fumes, where a dog is amongst the victims, it is usually found with its nose against the underside of the door in an effort to locate fresh air.

I have seen a number of cases where the source of the fumes has been a solid fuel burner. Very rarely there is a gross overt defect of the system. Most frequently the cause of the release of fumes is partial or complete obliteration of the flue or chimney by soot or debris or sometimes by allowing too much draught for the degree of damper opening.

Among my more recent cases is one concerning a seventeen-year-old school girl. She lived in an above average-sized house with her mother and older sister. The water was heated by a solid fuel boiler in the kitchen. The evening after the chimney had been cleaned by a sweep using vacuum equipment, all the members of the family noticed a smell of fumes and complained of headaches. The following morning the seventeen-year-old girl was found dead in her bedroom, which lay above the kitchen. Her windows were closed possibly because she had been complaining of a cold the day before. Her mother and sister both said that their headaches disappeared rapidly when they opened their bedroom windows the previous night. On examination of the water heating installation, it was found that the sweep had omitted to clean the flue, which lay between the cleaning port and the top of the stove, after he had swept the chimney and this was now obstructed by soot.

In another case earlier this year, a man, who was what we call a "do-it-yourself" type, or a "handyman" had draught proofed his house by making covers for his air bricks

—a form of ventilation which must be built in by law in Great Britain in all rooms where there is no open grate—and plastic screens for his outside doors. One weekend during the coldest part of the winter his fiancée came down for the weekend and it was noticed that the dog was staggering about the kitchen as if drunk. They were both worried about this and came downstairs during the night to see how the dog was and to make a cup of tea. In the morning the dog and the woman were dead and the man, who was nearest the corridor door, was deeply unconscious. Both the man and woman had apparently collapsed forward off their chairs whilst drinking their tea. The solid fuel stove was of a modern type and examination at once showed that the damper was fully closed and the draught regulator fully open. Further detailed examination revealed that the perforations in the top of the damper, which are there to prevent this sort of accident, had become blocked by fallen soot. This man swept his own chimney!

In another case an old lady was found unconscious on the floor of her kitchen when her companion returned home from work. A doctor was sent for and he formed the opinion that the old lady had suffered a stroke and remained with her until she died about half an hour after his arrival. He declined to issue a death certificate without informing the coroner. The coroner decided that as this was the first time that the doctor had treated the lady, an autopsy was advisable. Autopsy revealed carbon monoxide poisoning. It was ascertained that the carbon monoxide had come from the solid fuel stove. The old lady was in the habit of sitting in front of the stove and when she was cold would open the front without opening the damper, thus allowing fumes to escape into the room.

Another group of cases occur where a bucket with a deep flange is used for boiling water or clothing. Laboratory tests following fatal cases have shown that a very high concentration of carbon monoxide is released into the room owing to very inefficient

combustion of the gas especially when the bucket contains cold water.

Other cases occur where the combustion is satisfactory but where the clothing has been allowed to boil dry and char. I have seen four cases where the charring of clothing has been the source of the carbon monoxide. One of these cases illustrated dramatically how little inefficient combustion need take place to produce a lethal concentration of carbon monoxide.⁸

A night-shift worker returned home one morning and found his wife and three dogs dead in the kitchen. The wife had collapsed forwards out of the chair in which she was sitting. The television set opposite her was still turned on. On the stove was a bucket containing the remains of six charred handkerchiefs. The gas beneath the bucket was alight with a low flame. There was no smell of gas but the husband noticed a "sweet burning smell" to use his own words. The police officer, who was called, said he noticed a sickly odour but no smell of gas.

The kitchen was of standard size having a capacity of 530 cubic feet. The windows were close fitting, but the inside and outside doors had free air space around them of eighteen square inches. The larder, which was entered from the kitchen, contained a ventilator giving a further eight square inches of free air space. A series of experiments were carried out in the kitchen by scientists from the gas physical laboratory. Samples of air were taken from that part of the kitchen where the decedent was found. It was ascertained that when water was allowed to boil dry in the bucket no appreciable volume of carbon monoxide was released into the atmosphere. The physicist remained in the kitchen the entire time without discomfort.

The equivalent of six handkerchiefs were then charred over a simmering gas and at the first attempt the physicist, who remained in the room, collapsed from carbon monoxide poisoning and had to be resuscitated. A further test was carried out and the physicist entered the kitchen every fifteen

minutes through the inner door to collect samples. Even with the considerable air change which took place everytime the door was opened and closed, a lethal concentration of carbon monoxide in the kitchen was not only reached but maintained.

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Side Effects of New F.D.A. Regulations

An important step to acquire new drugs with the utmost safety is the proposed independent "court of appeal" to review disputed F.D.A. decisions on the technical aspects of drug evaluation. For the regulations to insist upon drug safety and drug efficacy is completely unrealistic since all of life is a calculated risk. Drug safety can never be guaranteed, and product efficacy is even more ephemeral. . . As so often happens when government through ill-advised legislation attempts to regulate private enterprise, whatever evils it hopes to correct are compounded. The new F.D.A. rules, unless drastically modified, will increase drug prices, destroy the small pharmaceutical houses, hamper research, and thus greatly increase the number of untimely and unnecessary deaths.—F. P. Rhoades, M.D., in *Michigan and Wayne County Academies of General Practice Bulletin*, August 1963.

Isolation Perfusion as an Adjunctive Treatment for Melanoma of the Extremities

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The technique of isolated perfusion has been shown to be a valuable addition to the treatment of malignancies. Results of its use in the treatment for melanoma of the extremities are presented.

CHEMOTHERAPY, the treatment of cancer with chemicals or drugs, has progressed with encouraging results in the last fifteen years. The limiting factor of most compounds used is their destructive effect upon normal tissue (chiefly the hemopoietic system) as well as tumors. The therapeutic effect of such drugs can be enhanced and their toxic action minimized by intra-arterial infusion into the specific area of the body where a tumor is located. This idea was originally conceived by Klopp et al,¹ who in 1950 reported greater regression of tumor and relief of pain when fractional doses of nitrogen mustard were injected into arteries which were directly supplying a tumor. The occlusion of the venous return apparently improved the results. Therefore, the ideal application of this principle seemed to be a closed circuit circulation through the tumor bearing region, which was possible with the development of the extracorporeal circulation systems. In 1958 Creech et al² reported the use of a regional extracorporeal

heart-lung machine to limit to the desired area the action of the chemotherapeutic agent. The successful application of this technic made feasible the administration of chemotherapeutic drugs to tumor-bearing areas in dosages which were not previously possible because of their harmful systemic effects.

Technics have been developed and described for perfusion in almost all regions of the body.^{3,4} Except for the extremities, the degree of isolation of a particular area has not been sufficient to insure safe administration of the drugs in dosages adequate to effectively destroy tumor cells. The marked destructive effects on melanoma of the extremities by isolated perfusion with Phenylalanine mustard have led to the acceptance of this treatment not only as a palliative measure, but as a part of the primary treatment of these lesions. The present report deals with fifteen cases of melanoma treated at the University of Virginia Hospital between October 1959 and October 1962. The results and the experience obtained with this limited group of patients are reported.

Material and Methods

The diagnosis of melanoma in all patients was confirmed by pathological studies prior to the institution of therapy. For the purpose of this paper, we elected to divide our patients into two groups: one group of five patients in whom the treatment was considered therapeutic, and a second group of ten patients in whom it was considered prophylactic. In all patients the primary lesion was located in one of the lower extremities, with the exception of one patient in Group I and one patient in Group II in whom the

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lesion was located in one of the upper extremities.

The lesion in the five patients in Group I although limited to the involved limb, had spread to more than one site and was known from the time it was diagnosed that surgical treatment alone could not accomplish a complete cure. Metastatic lymph nodes were present in each case and a radical dissection was performed either prior to or at the time of perfusion. The interval between initial therapy which was excision of the primary lesion and at times regional node dissection was variable. In one instance, the interval was eleven years between initial treatment and admission for perfusion of recurrent disease. Because of the extension of the malignant process locally in the extremity in these patients, it was decided that further therapeutic efforts should include regional isolation and perfusion with a chemotherapeutic agent. In no instance was there evidence that metastatic disease had extended beyond the extremity and regional lymph nodes at the time these patients were subjected to perfusion.

All ten patients in Group II were referred to us shortly after the primary lesion had been excised and diagnosed as melanoma. There was clinical evidence of regional lymph node metastasis in three of them (Nos. 11, 13 & 14), which was confirmed by pathological studies after surgical excision. One other patient (No. 5) had involved lymph nodes which were not palpable before surgery. During the surgical procedure the site of the primary lesion was re-excised in seven patients; in the remaining three the original excision was thought to be adequate. All patients except one that had regional node dissection several years before, at the time of initial treatment and was the only case of recurrent disease in Group II, underwent radical regional lymph node dissection. The regional perfusion with chemotherapeutic agents were considered prophylactic in all these patients because the

surgical procedure accomplished a complete excision of all the clinically involved tissues. The equipment for regional perfusion consisted of a disposable plastic bag bubble oxygenator and a roller-type pump.

The system was primed with 500 ccs. of fresh heparinized blood warmed to body temperature and kept warm by heat lamps directed to the bubbling column that had a flow of oxygen through it at a rate of four to five liters per minute. The vessels were cannulated after the regional node dissection, and a flow rate of 200 to 250 cc per minute obtained after isolation by proximal cross clamping of the artery and vein, and proximal application of a tourniquet. Papaverine was used to overcome vaso-spasm in the perfused area, and RISA to determine "leakage". One patient was perfused with Thio-TEPA, two with a combination of Thio-TEPA and PAM (phenylalanine mustard*) and remainder exclusively with PAM in doses of 1 to 1.5 mg per kg. of body weight. The perfusion time was one hour, except in two cases in which perfusion was

TABLE I
GROUP I—THERAPEUTIC (PALLIATIVE) PERFUSIONS
DIAGNOSIS: MALIGNANT MELANOMA

Pt. No.	AGE AND SEX	REGION	AGENT
1 G.M.S.	42 F	Rt. leg	Thio-TEPA 57 mg.
2 M.A.D.	57 F	Rt. leg	PAM 100 mg.
3 H.I.E.	51 F	Lt. leg	Thio-TEPA 45 mg. PAM 83 mg.
4 L.A.R.	65 F	Lt. arm	Thio-TEPA 30 mg. PAM 50 mg.
7 V.B.M.	51 F	Rt. leg	PAM 90 mg.

RESULTS: Patient No. 1 alive with recurrence 3½ years postoperative.
Patient Nos. 2, 3, 4, 7 expired 5 to 21 months postoperative.

terminated sooner because of excessive "leakage."

Results

The cases perfused therapeutically because

* 'Alkeran' brand Melphalan. Compliments of Burroughs Wellcome & Co. (U.S.A.) Inc.

of residual tumor in the extremity are listed in Table I. Symptomatic relief and some regression of tumor were obtained in all cases but follow-up examination demonstrated residual tumor or recurrent lesions. The longest period of clinical remission was achieved in patient number 1 who returned to our Tumor Clinic with a new, small lesion

TABLE II
GROUP II—PROPHYLACTIC PERFUSIONS
DIAGNOSIS: MALIGNANT MELANOMA

Pt. No.	AGE AND SEX	REGION	AGENT
5 H.M.McG.	30 F	Rt. leg	PAM 75 mg.
6 G.L.M.	51 F	Rt. leg	PAM 75 mg.
8 M.E.R.	40 M	Lt. arm	PAM 50 mg.
9 A.G.S.	52 F	Lt. leg	PAM 30 mg.
10 E.L.T.	67 F	Rt. leg	PAM 60 mg.

RESULTS: Patient No. 10 expired 17 hours postoperative (Coronary).
All others excellent 13 to 20 months postoperative.

four months after perfusion of her right leg but still survives four years postperfusion. Another patient (No. 7), expired one year and four months following chemotherapy. She had good palliation for eleven months after which she developed widespread metastatic disease although the perfused limb appeared free of malignancy at the time of her death. Patient number 2 had clinically complete regression of residual tumor in the extremity for a period of eight months. Then, there was the appearance of widespread systemic metastatic disease and recurrence in the extremity which finally was amputated as a palliative measure. This patient died 14 months after therapy. Patient number 3 expired with widespread malignant disease ten months after treatment and patient number 4 required amputation of her arm two months after perfusion because of uncontrollable local recurrence and expired three months later.

None of the latter four had complete clinical regression of the malignancy.

On both of the Tables numbered II are the cases perfused prophylactically with no known residual tumor. The only death in this group was a 67-year-old woman with a known history of coronary disease who expired 17 hours post-operatively from an

TABLE II—CONTINUED
GROUP II—PROPHYLACTIC PERFUSIONS
DIAGNOSIS: MALIGNANT MELANOMA

Pt. No.	AGE AND SEX	REGION	AGENT
11 M.F.H.	45 F	Lt. leg	PAM 75 mg.
12 H.A.McB.	40 F	Lt. leg	PAM 60 mg.
13 C.R.L.	62 M	Lt. leg	PAM 65 mg.
14 W.R.P.	19 F	Lt. leg	PAM 50 mg.
15 P.C.F.	57 F	Lt. leg	PAM 60 mg.

RESULTS: All excellent 7 to 11 months postoperative.

acute myocardial infarction. All the other patients are classified as having excellent results at the present time, for there is no evidence of persistent or recurrent melanoma, although the longest follow-up period is only one year and eight months and only seven months in the most recent patient of this series.

Conclusions

We believe we can say that the results of isolation perfusion of malignant melanoma of the extremities with PAM will cause complete regression of melanoma in selected cases. This suggests that such a procedure when done prophylactically, when all clinically involved tissue has been removed successfully may improve the five-year cure rates in melanoma. Even our patients of Group I achieved some degree of symptomatic relief and this alone may be worthwhile in some instances. We realize that this procedure still may be considered experimental. However, when conducted prop-

erly, it has a definite place in the treatment of melanoma.

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"The Greatest Investment of Our Lives"

Investigations! "Drugs cost too much." "The people are being mulct-ed." "The doctors are unreasonable." A simple pill or capsule should not cost 25¢ or 50¢. But is this pill simple? It is a miracle drug, compounded from years of effort and frequently millions of dollars. One to several doses, a \$3.00 or maybe \$12.00 prescription, now is frequently the cheapest thing in the world, saves hundreds or thousands of dollars, minimizes misery, disability and deformity that would happen without it. Fair profit is necessary to pay not only for the actual ingredients, not only for the cost of its development, but more important to continue research and development of still newer wonder drugs. A few cents more can pay for the greatest investment of our lives. The cures for cancer, coronary heart disease and other still great killers of today may be unreasonably delayed by all of these impending obstacles in the path of medical progress. The hampering (drug) investigations and the government encroachment on medicine have brought about a tight squeeze most discouraging to medical researchers. God knows how many sulfas, antibiotics, cortisones, anticoagulants, Salk vaccines or new drugs of untouched diseases we will be holding back. Many of the drugs of today would not have a ghost of a chance of acceptance with the new (FDA) government regulations. Is this "for the good of the people?"—William L. Gould, M.D., in *New York State General Practice News*, November-December 1963.

An Evaluation of the Clinical Indications for Thyroidectomy

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A series of 479 thyroidectomies has been analyzed. The accuracy of diagnosis, the incidence of malignancy, and other aspects of the problem are discussed.

MUCH OF THE CONTROVERSY concerning the treatment of thyroid diseases is due to a lack of uniform criteria in selection of cases for surgery. Slater and Lipton¹ have emphasized the wide discrep-

of 479 patients' charts were reviewed over this six year period (Table 1). In reviewing these cases, you can see that over the years there has been little or no increase in the total number of thyroid operations, but with the growth and development of the hospital, there has been an increase in the major operations performed each year. This fact emphasizes the general decline in the total number of thyroid operations performed in the Norfolk General Hospital. This has been commented on by Fowler² in recent years who emphasized that many thyroid conditions which in past years were treated surgically are now treated by other means. We think one striking decrease is in the treat-

TABLE No. 1
THYROIDECTOMY—NORFOLK GENERAL HOSPITAL

Pathological Diagnosis.....	1956	1957	1958	1959	1960	1961	Total
Carcinoma.....	8	1	3	5	3	6	26
Adenoma.....	7	12	6	8	5	9	47
Non-Toxic Nodular.....	52	55	49	59	32	35	282
Toxic Nodular.....	3	3	1	5	2	5	19
Non-Toxic Diffuse.....	1	1	0	0	1	1	4
Toxic Diffuse.....	10	8	6	6	10	12	52
Thyroiditis.....	8	6	4	6	10	10	44
Normal.....	0	2	0	0	0	2	4
Hematoma.....	0	1	0	0	0	0	1
Total.....	89	89	69	89	63	80	479
Major Operations.....	3,294	3,238	3,519	3,446	3,770	4,898	

ancy between the clinical diagnosis and the pathological diagnosis.

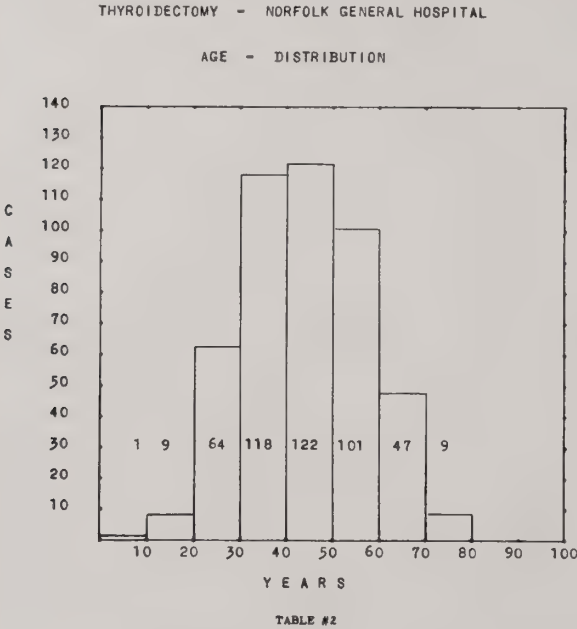
Classification

This paper presents a review and analysis of the indications for thyroidectomy as performed at the Norfolk General Hospital during the years 1956 through 1961. A total

ment of nodular goiter. Over the years, you can see a decline from 52 cases in 1956 to 32 cases in 1960 and 35 in 1961. Surprisingly enough, there has been little or no change in the incidence of surgery in toxic goiters. Whether this represents a surgical preference on the part of the medical profession in our area, or perhaps a failure of treatment with other agents, is not clear from the records.

Presented at meeting of Virginia Surgical Society, Williamsburg, May 11, 1963.

Table No. 2 outlines graphically the age distribution of our cases, the vast majority of them falling between the ages of 20 and 60, and the peak incidence being between



30 and 50. Ten of our cases occurred in individuals 20 years of age and younger (Table No. 3). Only one of the ten showed

TABLE No. 3

THYROIDECTOMY—NORFOLK GENERAL HOSPITAL
DIAGNOSES OF CASES UNDER AGE 20

Diffuse Toxic Goiter.....	3 Cases—Females
Nodular Toxic Goiter.....	1 Case —Female
Non-Toxic Nodular Goiter.....	3 Cases—Females
Adenoma.....	1 Case —Female
Papillary Adenocarcinoma.....	1 Case —Male
Normal Thyroid Tissue.....	1 Case —Male
Total.....	10 Cases

a carcinoma and this was a papillary carcinoma occurring in a male. The incidence of toxic goiter was 40%, which is higher than that of the total series, which is 16%. Batsakis and Nishiyama³ have reported that toxic goiter is the most common indication for thyroidectomy in patients under 18 years of age.

Table No. 4 outlines the sex distribution of the total cases. There were a total of 39 males in the series, or 8.1%. Of the males, the incidence of carcinoma was 12.9% and this is approximately two times the instance

of the entire series. Five of the males demonstrated adenomas with an incidence of 12.9%.

There were three deaths in the 479 cases

TABLE No. 4

THYROIDECTOMY—NORFOLK GENERAL HOSPITAL
DIAGNOSES IN PATIENTS

	Males	Females	Total
Number of Cases.....	39-8.1%	440-91.9%	479
Carcinoma.....	5-12.9%	21- 4.8%	26
Adenoma.....	5-12.9%	42- 9.6%	47

and this gives a surgical mortality of 0.6%.

An analysis of Table 5 brings out the accuracy of the preoperative evaluation of the indications for surgery. This chart is broken down into single nodules, multiple nodules, toxic goiters and diffuse non-toxic goiters. In the first column will be the pathological diagnosis determined following surgery and we can compare this with the pre-operative or clinical impressions in the other columns.

First, let us discuss the single or solitary nodule. Of the 236 cases of this series presenting with clinically single nodules, 20 or 8.5% had a carcinoma; 38 of the 236 cases had a pathological diagnosis of adenoma and this is 16% of the single nodules. When one adds together the carcinomas and the adenomas, we get a total of 58 cases which gives a 24.5% incidence of malignant or pre-malignant lesions out of the 236 solitary nodules. If one believes an adenoma is a pre- or potentially malignant thyroid lesion when we are talking about single or solitary nodules of the thyroid, we should add the adenomas to the carcinomas in order to emphasize the urgency of surgery in these patients. Certainly, with an incidence of 24.5% of the cases showing either carcinoma or adenoma, one would not hesitate to urge all these individuals to undergo surgery.

Of the 236 cases diagnosed pre-operatively as solitary or single nodules, 150 or 63% were diagnosed pathologically as non-toxic, nodular goiters. This figure of 63% demonstrates how inaccurate clinical diagnosis may be in thyroid diseases. Tellem⁴ and his group have reported that 40% of the nodules diag-

nosed clinically as solitary proved pathologically to be multinodular lesions.

Next, we will consider the multinodular thyroids and in this group with five reported carcinomas, there is an incidence of malignancy of 3.1%. This figure is approximately three times the incidence of carcinomas of

1971 cases at the Lahey Clinic. Tellem, Stahl and others⁴ in their series reported 13% carcinoma in 299 cases; however, when they break their cases down into those that are highly selected, they get carcinoma in 29%, where in their non-selected group, they have an incidence of carcinoma in only 6%.

TABLE No. 5
THYROIDECTOMY—NORFOLK GENERAL HOSPITAL
PREOPERATIVE DIAGNOSIS OF THYROID DISEASES

PATHOLOGIC DIAGNOSIS	Single Nodule	Multi-Nodule	Toxic	Diffuse Non-Toxic	Total
Carcinoma.....	20-8.5%	5-3.1%	1-1.3%	0	26-5.4%
Adenoma.....	38-16%	8	1	0	47-9.8%
	58-24.5%				
Non-Toxic Nodular.....	150-63%	125-78%	6	1	282-59%
Toxic Nodular.....	2	0	17	0	19-3.9%
Non-Toxic Diffuse.....	1	2	0	1	4
Toxic Diffuse.....	0	0	52-67%	0	52-11%
Thyroiditis.....	21-9%	20-12%	1	2	44-9%
Normal Tissue.....	3	1	0	0	4
Hematoma.....	1	0	0	0	1
Total.....	236-49%	160-33%	78-16%	4-2%	479

the thyroid in the general population as reported by Alexander⁵ and Mustacchi.⁶ These authors have reported incidence of cancer of the thyroid in the United States of approximately 25 per million population, or just less than 1% of all non-toxic goiters in the general population should be cancerous.

In the multinodular goiters, one can see that perhaps the accuracy of diagnosis reaches its peak. Out of the total of 160 cases diagnosed pre-operatively as multinodular thyroid, approximately 125 or 78% were diagnosed non-toxic nodular goiter by the pathologist. Certainly, the clinician is on firmer ground when he diagnoses a non-toxic nodular goiter pre-operatively, then when he attempts to give a diagnosis to a single nodule.

Table No. 6 gives the incidence of carcinoma in solitary nodules and multinodular goiters as reported by other authors. A great deal of emphasis is made whether the cases are from a selective series or not.

Hurxthal and Heineman⁷ report 6.7% carcinoma in their solitary nodules. Lahey and Hare⁸ reported 10.04% carcinoma in

When one uses a pathologically diagnosed solitary nodule, however, the occurrence of carcinoma rises sharply to 18%. Certainly in the solitary nodules in the series for the Norfolk General Hospital, an incidence of

TABLE No. 6
THYROIDECTOMY—NORFOLK GENERAL HOSPITAL
INCIDENCE OF CARCINOMA IN SOLITARY NODULES

Author	No. Cases	No. CA	% CA
Hurxthal and Heineman			
Solitary Nodules....	226	15	6.7
Multinodular.....	164	6	3.6
Lahey and Hare			
Solitary Nodules ...	1,971	198	10.04
Tellem, Stahl, Et Al.			
Solitary Nodules....	299	39	13.
Selected.....	197	30	28.
Non-Selected....	224	13	6.
Pathological			
Diagnosis....	174	32	18.
Colcock and King			
All Thyroidectomies	1,246	62	6.4
Fitchett and Chalkley			
Solitary Nodules....	236	20	8.5
Multinodular.....	160	5	3.1
All Thyroidectomies	479	26	5.4

8.5% of cancer approximates those of other non-selected series.

How does one select a series in order to increase the accuracy of one particular diag-

nosis? A number of factors have been used. Age has been said to be quite important in that carcinoma of the thyroid is seen more frequently in females under 20 and over 60. Also, carcinoma of the thyroid is seen more

TABLE No. 7
THYROIDECTOMY—NORFOLK GENERAL HOSPITAL
SPECIAL SELECTION OF CASES

Type	Number	Cancer
Females under 20.....	8	0
Females over 60.....	22	3
All Males.....	39	5
Total.....	69	8
Incidence of Cancer.....		11.9%
Incidence in Total Series.....		5.4%

frequently in males of any age. Another recent development is scintiscanning of the glands with radioactive iodine and finding cold nodules. The incidence of carcinoma increases rather sharply in those nodules with little or no uptake of the radio active iodine. And lastly, it has been shown that thyroid nodules which do not regress or disappear on desiccated thyroid are more likely to be malignant. When one applies these criteria to large series of cases, it is interesting to note that the accuracy of clinical diagnosis increases rather markedly. An attempt was

TABLE No. 8
THYROIDECTOMY—NORFOLK GENERAL HOSPITAL
CLASSIFICATION OF ADENOMAS

A. Follicular Adenoma	
1. Unspecified Type.....	9
2. Embryonal.....	4
3. Fetal.....	10
4. Colloid.....	7
5. Toxic.....	1
6. Hurthle Cell.....	2
7. Macro- and Microfollicular.....	8
8. Follicular and Papillary.....	2
B. Papillary Adenomas.....	4
Total.....	47

made to use the criteria of age and sex in the reported cases from the Norfolk General Hospital (Table No. 7). When all females under 20 and over 60 plus all males are singled out, the diagnosis of malignancy occurs in 11.9% or twice the incidence of the overall series (5.4%).

In the next Table (No. 8), one sees the classification of the adenomas of the thyroid by types as seen at the Norfolk General Hospital. There were a total of 47 adenomas diagnosed out of the total series. The great-

TABLE No. 9
THYROIDECTOMY—NORFOLK GENERAL HOSPITAL
CLASSIFICATION OF CARCINOMAS

1. Papillary Adenocarcinoma.....	13
2. Follicular Adenocarcinoma.....	2
3. Carcinoma in Follicular Adenoma.....	1
4. Mixed Papillary-Follicular C A.....	4
5. Non-Encapsulated Sclerosing Tumor.....	5
6. Undifferentiated Carcinoma.....	1
Total.....	26

est number of them fall under the unspecified type, the pathologist simply calling them follicular adenomas. The other breakdown is consistent with other reported series.⁹

Table No. 9 classifies briefly the types of carcinoma as seen in the Norfolk General Hospital. The largest number of carcinomas were the papillary adenocarcinomas. It is interesting that only two pure follicular adenocarcinomas were reported in our series. However, we do have one carcinoma arising in a follicular adenoma and four mixed papillary and follicular carcinomas. An in-

TABLE No. 10
THYROIDECTOMY—NORFOLK GENERAL HOSPITAL
SURGICAL TREATMENT OF THYROID CARCINOMA

1. Total Lobectomy—Including Isthmus.....	9
2. Total Lobectomy—Subtotal, Opposite Side.....	3
3. Subtotal Thyroidectomy.....	5
4. Total Thyroidectomy.....	4
5. Excision of Nodule.....	1
6. Total Lobe—Subtotal—R.N.D. (All Papillary C A with Nodes).....	3
7. Excision Thyroglossal Cyst.....	1
Total.....	26

teresting group of tumors is the so-called non-encapsulated, sclerosing tumors of the thyroid. Pathologically, these tumors are malignant, however, their clinical behavior is benign. Five cases are reported in this series and the authors feel they must be reported along with the other malignancies.

Table No. 10 gives the various methods

of surgical therapy as employed at the Norfolk General Hospital in the treatment of thyroid carcinoma. In nine patients total lobectomy including the isthmus was performed; three patients total lobectomy on the involved side with a subtotal lobectomy on the opposite side was the only treatment. Five patients reported as having only subtotal thyroidectomy and four cases had a total thyroidectomy. One case had an excision of a tumor nodule only and three cases had a total lobectomy and radical neck dissection on the involved side and a subtotal lobectomy on the uninvolved side. All of these last three tumors were papillary adenocarcinomas. One case reported a papillary adenocarcinoma arising in a thyroglossal cyst which was excised. There has been no further treatment and no recurrence in 69 months. This is a rare occurrence. Fish and Moore¹⁰ reviewed the literature on this subject and found 13 reported cases of thyroid cancer in thyroglossal duct remnants and reported an additional case.

Discussion

A number of facts come out when one compares pre-operative indications for thyroid surgery with the final pathological diagnosis. First and foremost is the great variation in reported statistics of the incidence of malignancy in solitary nodules as well as in multinodular goiter. Sokal and others¹¹ have stated that a surgical series of thyroidectomies is, in general, selected by the non-surgical staff of any institution. Certainly, this fact is well recognized by our medical colleagues. The more critically a surgical series is selected, the greater will be the frequency of cancer reported in it. In the cases reviewed by Tellem and Stahl out of 107 selected solitary nodules, there were 30 cases of carcinoma with an incidence of 28%, and in 224 non-selected nodules there was only a 6% incidence of carcinoma. This is an important analysis, since they are working essentially with the same groups of cases and producing different statistical figures simply by a different method of se-

lection or analysis of each case. I think in general we could conclude that in any unselected series of solitary nodules of the thyroid gland, that the incidence of carcinoma will vary between six and 10%, and that if a series becomes more and more selective, this incidence of carcinoma in the nodules may run as high as 30%. In the multinodular goiters, the incidence may vary from less than 1% to as high as 15%.

The indications for surgery in a series of thyroidectomies at the Norfolk General Hospital have been reviewed. The incidence of carcinoma in the total series was 5.4% and in those cases diagnosed pre-operatively as solitary or single nodules, it was 8.5%. The inaccuracy of pre-operative diagnosis is exemplified in the 150 cases diagnosed pre-operatively as solitary nodules, and on examination of the tissue in the pathological laboratories showed non-toxic nodular goiters. This is 63% of the single or solitary nodule cases. On the other hand, in those cases diagnosed multi-nodular goiter pre-operatively, there was 78% accuracy in the diagnosis when confirmed by the pathologist.

It is the feeling of the authors of this report that the incidence of carcinoma of 8.5% in solitary nodules is a fair appraisal of the problem as seen in the community type of general hospital. Certainly in some referral centers, especially those in goiter areas, this figure would be expected to be much higher. We also recognize that the indications for surgery in thyroid disease are changing. It is our feeling that as our criteria for selectivity of patients for surgery improves, the indication for surgery in solitary nodules will increase and our indications for surgery in other thyroid conditions will probably diminish.

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Doubt and Disbelief in Clinical Progress

Not infrequently, it takes years and sometimes decades of widespread clinical experience to evaluate the relative merit of a drug in given conditions. From such long experience, a medical consensus generally emerges but even then some qualified physicians refuse to go along with their colleagues. History teaches that authoritarian bodies often have been guardians of orthodoxy rather than champions of progress. Medical experts rejected Jenner's smallpox vaccine, Pasteur's anthrax vaccine, Lister's theory of antisepsis and Semmelweis' discovery of the cause of childbed fever. Cod liver oil was rejected as worthless by the Council on Pharmacy and Chemistry of the American Medical Association. When Prontosil, the first sulfa drug, was introduced in the United States, it was greeted as another quack remedy by an outstanding American authority on infectious diseases. In the early 1930's the same authority dismissed early English reports on penicillin as incredible and refused to employ for clinical testing a culture of penicillium that had been brought to him by one of his associates. He poured it down the sink.—Theodore G. Klumpp, M.D., at Conference of Professional and Scientific Societies, Chicago, Ill., June 28, 1963.

Retroperitoneal Placement of Ileal Bladder

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It sometimes becomes necessary to divert the urinary tract permanently. The technique described here may be useful under these conditions.

IN 1950 BRICKER¹ introduced the use of an isolated segment of ileum as a permanent urinary conduit. This procedure subsequently has had wide acceptance, especially when a favorable prognosis is anticipated. Definite drawbacks to this type of urinary diversion include the length of time necessary to construct the artificial bladder as well as the complication rate of fistula, peritonitis, sepsis and failure due to anastomotic breakdown.

A patient, W. K., presented a problem that was handled by a technique which we have not encountered in the literature and which seems worthy of reporting.² This man, a fifty-seven-year-old white laborer, was admitted on the orthopaedic service because of a paraspinal mass which, after excision on November 13, 1962, was reported as metastatic carcinoma Grade IV. This was consistent with a bladder tumor that had been fulgurated ten months previously. Intravenous pyelograms showed nonfunction on the left with a slightly dilated ureter on the right. His BUN was 21 mg. percent on November 21, 1962. The chest x-ray showed no metastases.

Because of pain in the region of the left hip and thigh, x-ray therapy was started and the pain improved. However, he became

somewhat slow of speech and thought, and on December 7, 1962, the BUN had risen to 44 with an additional rise to 70 mg. percent on December 13, 1962. The family physician as well as the relatives of the patient were anxious to perform any life preserving measure since his pain was better. Accordingly, on December 17, 1962, somewhat reluctantly, we attempted a procedure which seemed safe, simple, and easily tolerated by the patient. This can best be described with diagrams:

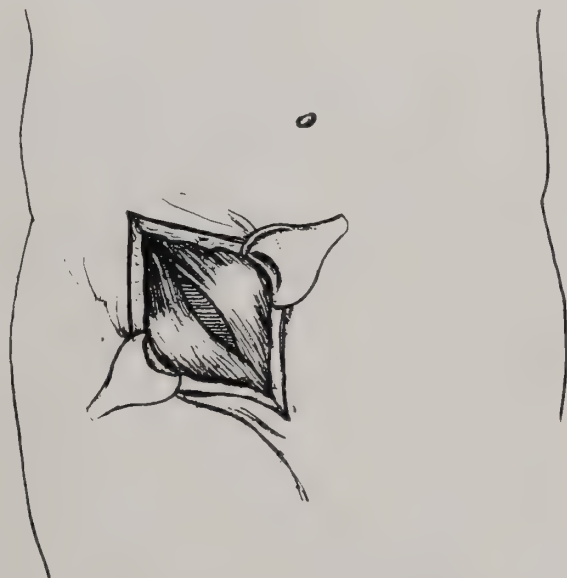


Fig. 1. An oblique incision, four inches in length, was made above and parallel to the spermatic cord. The external oblique was divided along the course of its fibers and the subjacent muscles in the same incision to the level of the peritoneum. The peritoneum was reflected mesially exposing the ureter which, in this instance, was markedly dilated.

Discussion

We do not intend to infer that the proper type of urinary diversion was carried out in this particular patient, nor is it suggested that a retroperitoneal placement of a urinary conduit of this type will have broad indications for its use. However, this method

Presented at meeting of Virginia Surgical Society, Williamsburg, May 11, 1963.

can be performed expediently with little postoperative discomfort to the patient and with safety. It is surprisingly easy to place the cephalad end of the segment in prox-

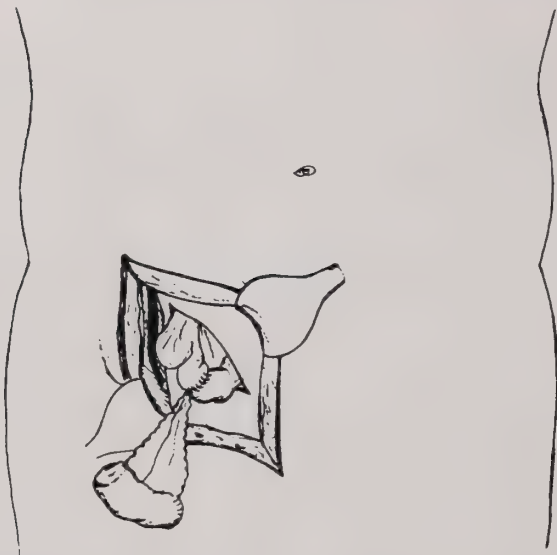


Fig. II: The peritoneum was opened to allow palpation of the pelvis, preaortic area, and upper abdomen. The bladder tumor was fixed in the pelvis and several pre-aortic nodes below the pancreas were involved with hard metastatic tumor. The liver contained no palpable metastases.

The terminal ileum was eviscerated and an eight inch ileal segment isolated below an end-to-end reconstruction of the bowel and mesentery continuity.

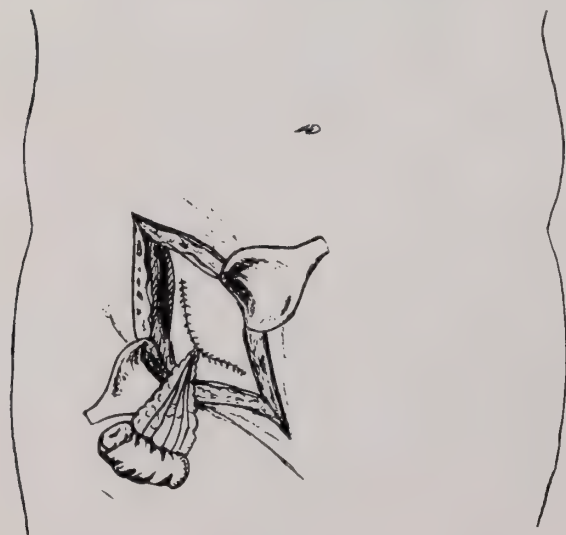


Fig. III: The cephalad end of the isolated segment was closed. The peritoneum was loosely sutured around the mesentery and a two-layer anastomosis used to unite the ureter to the isolated ileal segment.

imity to the retroperitoneal left ureter. We feel the use of this method is worthy of consideration in three situations: (1) Pal-

liation in certain unresectable neoplasms when bladder symptoms and lower obstruction are present and a reasonable period of life can be anticipated. Such seems more

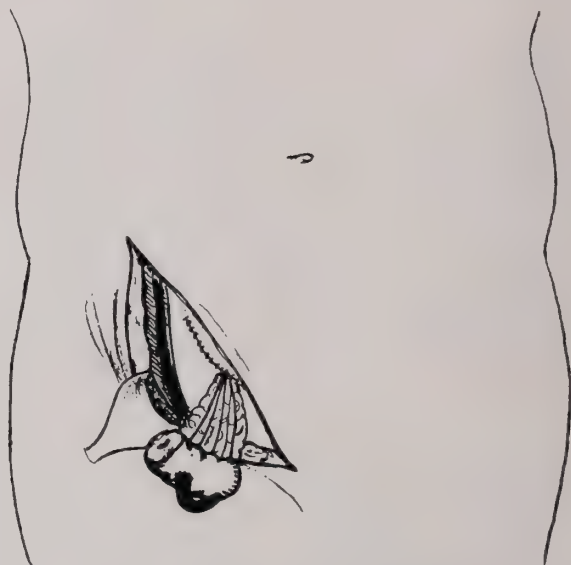


Fig. IV: The stoma was fixed to the skin after excision of a button using the eversion technique. The wound was closed in layers with a cigarette drain in place. Postoperatively, he did quite well, his BUN gradually falling to a reading of 16 mg. percent three weeks after the operation. The ileal bladder functioned satisfactorily until his death from generalized disease eight weeks after the operation.

frequent with the increasing use of supra-voltage therapy. (2) As a first-stage procedure in patients with lower urinary obstruction requiring some type of pelvic exenteration which includes the bladder. (3) In certain benign conditions when the clinician wishes to have a functioning urinary conduit prior to dividing the second ureter.

Summary

A technique for urinary tract diversion is described which should have limited but definite usage in permanent urinary tract diversion. Its simplicity and safety may make for its increased popularity.

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Cholecystitis in Coronary Disease

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The author calls attention to an excessive mortality associated with cholecystectomy in the presence of coronary artery disease.

THIS BRIEF PAPER raises a question regarding the proper treatment of recurring cholecystitis when coronary disease is also known or strongly suspected.

Clinically it seems that acute cholecystitis may serve as a trigger to initiate a coronary attack, thereby adding to the risk of death from the cardiac disease already present¹ and this clinical impression has been one of the reasons for advocating operation in coronary patients who have gall-bladder disease, although it is recognized that major surgery in these patients is attended by increased risk.²

I can report two items of clinical investigation that bear on this question:

1. At the Coral Gables Veterans Hospital during a six-year period, there were 126 operations for cholecystitis, and six patients died after operation from abrupt cardiac failure, believed, or shown at autopsy, to be due to coronary insufficiency. Deaths occurred whether cholecystectomy was done as an emergency, or as an interval procedure.

Six deaths in 126 operations is not at first sight an excessive mortality, but these were sudden cardiac deaths, other complications such as peritonitis or pneumonia not being involved.

Consideration would indicate that only a limited number of the 126 patients had pre-existing coronary disease. The number is

entirely conjectural, but, assuming that as many as 30 patients had pre-existing coronary disease, most of them undiagnosed, the postoperative sudden cardiac death-rate becomes six out of 30, which is 20%. Perhaps only 20 had coronary disease; then the death-rate becomes 30%.

We had to consider this a disturbing mortality, and we began to avoid operation upon such patients except in emergency, despite a general feeling, shared I believe by Waltman Walters, that it is the correct procedure to remove the gall-bladder in this situation.

2. The question, however, then arises: if corrective surgery is not done, what will happen to the patient?

To throw light on this question, records at one of the Norfolk hospitals were reviewed. During a recent two-year period, there were in the hospital 112 acute cardiac deaths, diagnosed coronary or arteriosclerotic heart disease. No instance of immediately preceding acute cholecystitis could be found.

It appeared therefore that a *fatal* coronary attack is not commonly initiated by an attack of acute cholecystitis.

As regards cholecystectomy, there were three postoperative acute cardiac deaths during the same period, two of the operations were done in an interval between attacks. This suggests some agreement with our experience at Coral Gables.

To summarize: First, gall-bladder surgery carries a disturbingly high risk in the presence of coronary disease; second, whereas acute cholecystitis may initiate a coronary attack, it is not commonly a *fatal* attack.

We are faced with a dilemma as regards proper treatment for recurring cholecystitis is a serious condition even though it does not commonly initiate a fatal coronary attack and medical treatment can only be palliative.

Presented at meeting of Virginia Surgical Society, Williamsburg, May 11, 1963.

If there has been a considerable interval since a coronary attack, operation carries much less risk; but this interval should be two years, according to a recent study at Cornell.³

I present no satisfactory solution to the problem but simply call attention to it. It is possible that the lesser operation of cholecystostomy should be considered a compromise; under favorable circumstances, this

procedure might be done under local anesthesia.

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The Plight of the Clinical Investigator

Several sets of (new drug) regulations promulgated by the Food and Drug Administration . . . in some instances have actually gone beyond the intent of Congress. Probably the most crippling of these have been the clinical regulations which took effect February 7. Spawned at the height of the thalidomide crises, they place unreasonable burdens on manufacturers and clinical investigators alike. Investigators must now file lengthy federal forms before they can undertake clinical work. The design of the experiment must be approved by the government, and no departures are permitted unless special permission is secured. Lengthy and expensive animal testing is required, and no drug can be administered to humans before such testing is completed. The Food and Drug Administration must be kept informed at all stages of the experiment at any time. The patient's consent must be secured for the administration of an investigational drug except where, in the judgment of a physician, it would not be feasible.—C. Joseph Stetler, Executive Vice President and General Counsel, Pharmaceutical Manufacturers Association, to 31st Annual Assembly of the Omaha Mid-West Clinical Society, Omaha, Nebraska, October 31, 1963.

The Possible Role of Acid Fast Bacilli in Two Clinical Entities

The problem of the etiological agent of cat-scratch fever has been a difficult one. It was early recognized that the cat itself did not have the disease but acted as a carrier from some pool in nature. The infective agent has been sought on the claws of the cat as well as the saliva and teeth without results and lesions of patients were also negative. The virus of psittacosis was implicated but without any real evidence. Using hemagglutinating technics, a virus akin to Herpes virus was suggested to be the agent and some evidence of inclusion bodies was found in a few cases.

In a high percentage of cases, a weakly positive tuberculin test is present and erythema nodosum has been reported at the onset of the disease. A cat-scratch fever test has been devised using aspirated necrotic material as the antigen. Most patients with this disease show a positive reaction to the intradermal injection of this extract, although usually to a lesser degree than that observed with the tuberculin test.

Recently Boyd and Craig have found chromogenic, atypical acid fast bacilli in lymph nodes and other tissues in some cases of cat-scratch fever. The patients also demonstrated sensitivity to extracts of these organisms. In view of these findings, it would be worthwhile to investigate further the possibility of a mycobacterium as being the agent responsible for cat-scratch fever.

Tuberculoid lesions on the nose, elbow and other parts of the body following injuries sustained in public swimming pools are becoming increasingly more frequent. Cases

first were reported by Hellerstrom in Sweden in 1939. Since then, they have been reported from Canada, San Francisco, Seattle and in 1959, 300 cases were reported from Colorado. The lesions which made their appearance two to three weeks after infection were localized papules or nodules which slowly increased in size and at times, ulcerated forming a scab. Healing with scar formation in most instances was spontaneous after several months.

Material cultured from lesions in the Colorado outbreak grew acid fast bacilli that were identified as *Mycobacterium balnei*. This organism had been isolated from other cases in Sweden and Hawaii and is thought to be similar to *M. platypocilus* and *M. marinum* which cause a granulomatous type disease in fish. The organism apparently is a normal inhabitant of humid soil or warm water and when the opportunity presents itself can be involved in human disease.

Skin granuloma due to *M. balnei* may be diagnosed on the basis of past history of swimming, positive tuberculin reaction, histological examination and by the isolation of the organism.

These recent findings of *Mycobacteria* as the etiological agents of skin granuloma and cat-scratch fever illustrate the value of bacteriological examination of material from disease entities of unknown origin.

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Poliomyelitis—Virginia 1963

The year 1962 ended with preliminary figures for total cases of poliomyelitis showing a 20 per cent decline in paralytic cases for the nation in comparison with the preceding record low year 1961. Reported cases in 1961 totaled 1,364. The final figures for the nation for 1962 totaled 910 cases, 762 were paralytic. In Virginia, 1962 was a new record low year with a total of only eight cases of poliomyelitis reported. (See Table I)

TABLE I
POLIOMYELITIS—VIRGINIA

	Cases	Case Rates	Deaths
1953	740	21.0	33
1954	613	17.1	12
1955	336	9.2	10
1956	237	6.4	8
1957	107	2.8	6
1958	159	4.1	11
1959	290	7.4	10
1960	58	1.5	3
1961	14	0.3	4
1962	8	0.2	1

The first case of poliomyelitis in Virginia during 1963 was reported from Fairfax County on the 28th day of April. This 37-year-old white female had received three injections of inactivated polio vaccine of the Salk type in 1957 and two injections in 1956. Type I polio virus was isolated by the State Health Department laboratory from fecal specimens which had been promptly submitted by this patient's physician. Serological tests were also indicative of a Type I infection. The type of paralysis was bulbar and significant disability was noted 60 days after the onset. Symptoms were first noted on the 23rd day of April. No subsequent cases were reported from this area of Virginia. However, it is interesting to note that twenty-three cases of Type I poliomyelitis were reported from Cumberland and Perry

Counties of our neighboring State, Pennsylvania, during the period of April 23 through June 12. A mass Type I oral vaccine program was carried out in these counties on the 22nd day of June. Philadelphia reported four cases of Type I poliomyelitis with dates of onset between May 24, 1963 and June 16, 1963. Sporadic cases continued in June and July with an abrupt increase in early August. By the week ended August 31, a total of 42 cases were reported. The cases occurred primarily among inadequately vaccinated preschool age children. An intensified immunization program using oral polio vaccine of the Sabin type vaccine in one of the cities' 12 health centers began September 11 and on September 22 a community-wide program was carried out in Philadelphia and adjacent counties. Philadelphia cases totaled 55 by the week ended October 12.

Two "suspected cases" of poliomyelitis were reported from Petersburg, Virginia, on September 16. The following day a third "suspected case" was reported from Petersburg and a fourth case from nearby Chester. Dates of onset ranged from July 28 through September 14. The three cases from Petersburg were located in the densely populated central area. The Chester case (Chesterfield County) was from a sparsely settled community approximately 10 miles north of Petersburg off Route 1. Subsequent cases developed in the central area of Petersburg, west of the city in the Central State Hospital (in Dinwiddie County) and in a community where many of the hospital employees reside. (See Table II) Several families from Philadelphia were visiting relatives in this community.

Viral studies clearly demonstrated that polio virus Type I was the etiologic agent involved in this local outbreak. An intensive Type I oral vaccine immunization

program was carried out on Saturday, October 12, in the Petersburg area which completely exhausted the supply of vaccine on hand, i.e., 80,000 doses. An entire community was organized and mobilized in a remarkably short time (less than three days). An additional feeding in excess of 20,000 doses was carried out the following Wednesday, October 16. No subsequent cases were reported from the Petersburg area following this effort.

vaccine. No doubt, in some instances, the parent was under the impression that the series had been completed.

In two instances, the history of a febrile illness was lacking; pain and weakness was the presenting complaint. Poliomyelitis virus, Type I was isolated from stool specimens from all cases for which specimens were submitted, i.e., nine cases and 15 household contacts.

Two cases of poliomyelitis were reported

TABLE II
POLIOMYELITIS CASES—VIRGINIA—1963

Case No.	Date of Onset	Age	Sex	Location	Salk Injection	Clinical Status
1	April 23	37 yr.	F	Fairfax	Five	Paralytic
2	Sept. 7	13 mo.	F	Petersburg	One (8-28-63)	Paralytic
3	Aug. 28	10 yr.	F	Petersburg	None	Paralytic
4	Sept. 14	2½ yr.	M	Petersburg	None	Paralytic
5	Sept. 3	17 yr.	M	Chester	One (1956)	Bulbo-Spinal
6	Sept. 16	9 yr.	F	Dinwiddie	None	Non-paralytic
7	Sept. 25	6 yr.	M	Petersburg	None	Paralytic
8 (died)	Sept. 26	35 yr.	F	Petersburg	None	Bulbo-Spinal
9	Oct. 8	11 yr.	M	Petersburg	None	Non-paralytic
10	Sept. 26	13 yr.	M	Dinwiddie	One (1958)	Paralytic
11	Oct. 7	8 yr.	M	Central State Hospital	None	Paralytic
12	Oct. 7	11 yr.	M	Central State Hospital	None	Paralytic
13	Sept. 29	39 yr.	F	Central State Hospital	None	Paralytic
14	Sept. 23	12 yr.	M	Petersburg	None	Paralytic
15	Sept. 23	11 yr.	F	Dinwiddie	Four*	Paralytic
16	Oct. 12	4 yr.	M	Dinwiddie	None	Paralytic
17	Sept. 21	20 yr.	F	Petersburg	None	Paralytic
18	Oct. 16	7 yr.	F	Richmond	Three	Non-paralytic
19	Oct. 26	6 yr.	M	Chesterfield	None	Non-paralytic
20	Nov. 12	8 yr.	M	Goochland	None	Paralytic
21	Nov. 11	15 yr.	M	Goochland	Three†	Paralytic
22	Nov. 19	7 yr.	F	Goochland	None	Paralytic

*Four injections given as follows: First, July 18, 1956; second, February 6, 1957; third, August 5, 1959; fourth, March 24, 1961.

‡8 months pregnant.

†Not in recommended sequence.

Two cases exhibited bulbar type paralysis, a 17-year-old boy and a 35-year-old woman. The 17-year-old had received a single injection of Salk vaccine in 1956; he recovered. Although several parents initially indicated that their children had received three or more Salk injections, subsequent inquiry revealed that they had not received any/or completed the series. One can comprehend the reluctance of a parent to report factually at such a time. This attitude may bias unfavorable statistics pertinent to the effectiveness of the Salk

from the Richmond area. The first was a 7-year-old girl from a low rental housing project located in south Richmond between the Richmond-Petersburg Turnpike and Route 301. Symptoms were first noted on October 6, 1963. She was discharged from the hospital as a case of aseptic meningitis; polio virus Type I was isolated from stool specimens obtained while in the hospital. She had received Salk vaccine in April and May of 1960 and a third injection in June of 1961. The Salk coverage in this housing development was known to be of a high

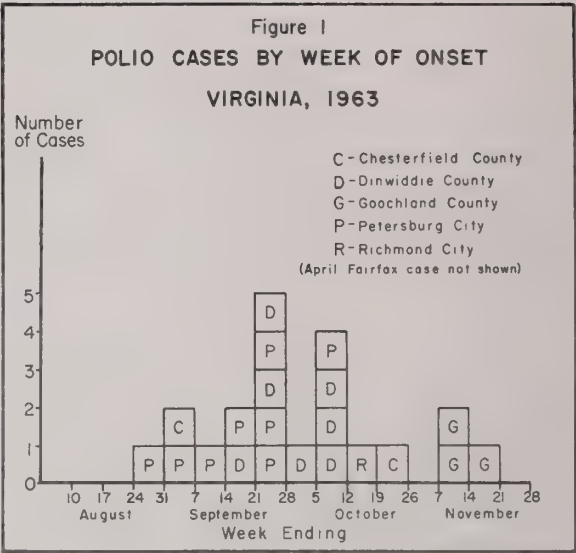
order. No subsequent cases were reported from this community. The second case was an unimmunized 6-year-old boy who lived adjacent to south Richmond in Chesterfield County. Type I poliomyelitis was isolated from this non-paralytic case. Onset of symptoms was October 26. No subsequent cases were reported in this community.

Three cases were reported from Goochland County during November. All three cases came from the rural community of Sandy Hook and attended the same elementary school. Dates of onset of symptoms were reported as November 11, 12 and 19. The first case, a 15-year-old boy had received three injections of Salk vaccine i.e., on 4-20-55; 3-21-58, 5-16-58. His 17-year-old brother had been job hunting in the Philadelphia area during the first two weeks of August. The second and third cases are considered household contacts and live in the proximity of the first case. The second case, an 8-year-old boy and the third case, a 7-year-old girl were unimmunized. The six siblings of the first case had received Salk vaccine on the same dates as the case. The 11 siblings of the second and third cases were inadequately immunized. Some had received no vaccine, some had received two injections. Type I poliomyelitis virus was isolated from all three cases. The three cases were paralytic.

Type I vaccine was fed to 1100 school children, parents and preschool children from this community, including the consolidated high school which is adjacent to the elementary school serving this community. A county-wide immunization program was planned by local medical and voluntary organizations for December 8. No subsequent cases have been reported from this area.

A total of 22 cases of poliomyelitis was reported in Virginia during 1963. Eighty-six per cent of the cases occurred among the school age group, i.e., 6 through 20; 13.6% were of the preschool age; 13.6% were in their thirties, i.e., 35, 37, 39. Twenty-one cases were reported with dates of onset be-

tween the week ended August 31 and the week ended November 21. (See Graph I)



As in outbreaks of poliomyelitis in other parts of the nation, Alabama, Philadelphia and Jacksonville, Florida, the cases in Virginia occurred largely among the unimmunized or inadequately immunized non-white population. Such outbreaks can be expected to continue in the future wherever a build-up of susceptibles occurs. Special efforts are necessary to reach this "hard core" of susceptibles if complete immunization is to be attained. Many of the cases and their family members had simply failed to follow through even though personal contact with the family had been made by the local health department, pertinent to polio immunization.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Dec. 1963	Dec. 1962	Jan.- Dec. 1963	Jan.- Dec. 1962
Brucellosis	1	0	12	13
Diphtheria	1	5	1	18
Hepatitis	42	84	824	1176
Measles	389	289	8738	9675
Meningococcal Infections	5	9	88	78
Aseptic Meningitis	0	2	29	47
Poliomyelitis	0	0	22	8
Rabies (In Animals)	27	3	238	138
Rocky Mt. Spotted Fever	0	0	37	45
Streptococcal Infections	1000	875	9669	7511
Tularemia	0	3	7	17
Typhoid Fever	4	1	13	17

MICHAEL J. ROSTAFINSKI, M.D.

A Case of Brain Damage Due to Dehydration

J. H. H. (Reg. No. 10519) is an eight-year-old white male who was admitted to the Lynchburg Training School and Hospital on September 4, 1963.

Past history: The child was born on June 6, 1955, to a 30-year-old mother after an uneventful pregnancy and an uncomplicated labor and delivery. The child weighed seven pounds, nine ounces at birth. During his first half year of life between August and December of 1955, he was hospitalized four times for gastroenteritis complicated by gastrointestinal bleeding and anemia. The patient was treated with antibiotics, transfusions and parenteral fluids. He was apparently quite seriously ill during these periods and his demise was anticipated on several occasions. During his illness in 1955, he was noted to have jerking movements of the left arm and leg and afterwards seemed to have a left-sided paralysis. Thereafter, the family noticed a curious indifference to his left arm; the patient frequently ignored it. At age ten to twelve months, he began to have generalized convulsive seizures. In February of 1958, a neurologic examination revealed a left hemiparesis with increased deep tendon reflexes on that side and a questionable visual field defect. It was then felt that this might have resulted from a thrombosis in a cortical vein with predominant damage to the right cerebral hemisphere which occurred during the illness in 1955. The electroencephalogram showed constant seizure discharge in all leads suggesting the presence of severe epilepsy. Seizures occurred regularly four to five times a day, mainly grand mal in type.

ROSTAFINSKI, MICHAEL J., M.D., *Director of Research and Training, Lynchburg Training School and Hospital, Colony.*

Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

He was placed on anticonvulsive medication, but epileptic seizures have not been fully controlled.

Physical examination on admission to LTSH: Blood pressure was 110/60, pulse was 86 and regular, respiration was 16 and regular. General appearance: this was a very fair, pale, boy who lay quietly on the examining table with the left arm flexed and the knees drawn up. Head was 53 centimeters in circumference. Carotids were palpable and equal bilaterally. The following abnormalities were noted: multiple traumatic scars over the right side of the head; an erythematous, papular eruption over the face; hypertrophied gums; and old scars over the right arm.

Neurologic examination: The patient was awake but not very alert. He appeared to be drowsy and frequently yawned. There were occasional cooing and slight feeble attempts at crying but no other vocalization. He was quite indifferent to a variety of stimuli. Cranial nerves: The pupils were equal, regular, and reacted to light and accommodation with a direct and consensual reaction. Extraocular muscles appeared intact. Visual fields were difficult to assess but the patient followed light and objects in the right visual field, and completely ignored such stimuli in the left visual field. No nystagmus was noted. The fundi were within normal limits. The remainder of the cranial nerves examination was normal. Gait and station: The patient walked with a wobbly, uncertain gait, and fell frequently but not consistently to either side. He walked on a very wide base with the left arm adducted and flexed against his trunk and with some circumduction of the left foot. The motor examination: Muscular bulk appeared bilaterally symmetrical. There were no localized or selective areas of atrophy or wasting. No fasciculations or abnormal movements were

noted. The patient, however, kept his left arm adducted and flexed against his chest and there was moderate increase in tone on the left side with some suggestion of weakness. Coordination and spontaneous movements of the right extremities appeared good but there was a poverty of movement of the left extremities. Sensory examination: The patient withdrew from pin prick throughout, and by movements of his head and the stimulated area of his body indicated that he apparently perceived light touch and vibratory sensations. Reflexes: The reflexes on the left side were all hyperactive. There was no clonus, and the Babinski responses could not be elicited. There were neither grasp nor sucking reflexes. A palmomental reflex was elicited on the left.

Laboratory findings: EEG showed slow waves and spikes. The electric activity on the right was suppressed. The remainder of laboratory findings were not contributory.

Discussion

According to Cooke¹ there are three main types of dehydration in cases of acute diarrhea. The isotonic dehydration is most frequent and constitutes 70 per cent of cases. The hypertonic dehydration frequently associated with cerebral dysfunction and metabolic acidosis constitutes 20 per cent of the cases. The hypotonic dehydration constitutes the remaining 10 per cent of cases. Because of the presence of severe sequelae involving the central nervous system, we might assume that our patient suffered from the hypertonic type of dehydration.

This patient presents an interesting problem for discussion. There are two main possibilities to be taken into account as far as the pathogenesis is concerned. In cases of hypertonic dehydration there is an increase of viscosity of blood and slowness of circulation. This may result in thrombosis of the cortical veins. In cases when thrombotic processes extend through the entire hemisphere, hemiparesis will result. Even in cases in which thrombosis involves the sagittal sinus the veins of the opposite hemisphere are

not necessarily involved. In such instances patients developed generalized convulsions and become unconscious. Among those who survive, severe sequelae develop in the form of mental deficiency, epilepsy and paralysis (Dekaban²). This patient's past and present physical findings can be explained by the concept of thrombosis of the cortical veins.

There is, however, another possible explanation and we must, therefore, differentiate the thrombosis from the intercranial hemorrhages. Sotos et al.³ have done studies on experimental hypertonicity. Various solutions were infused into 27 rabbits. Animals developed neurologic symptoms in the form of restlessness, which alternated with decreased responsiveness, muscular twitching, ataxia, and nystagmus. There was no correlation between clinical symptoms and the nature of solution infused; however, there was apparent correlation between clinical symptoms and the gradient of osmotic pressure between the intracellular and vascular compartments in brain. Metabolic acidosis was observed also. No epileptic seizures were observed but electroencephalographic tracings were abnormal. Those rabbits in which hypertonicity was not corrected died within one and a half and nine hours.

The examination of brains of 22 rabbits which died from hypertonicity revealed shrinkage of the brain and engorgement of the cerebral veins in all cases. In five brains subdural hemorrhages were observed and in three microscopic petechial hemorrhages were found in the cerebrum and cerebellum. The hemorrhages were observed in those animals which developed the hypertonicity in less than three and a half hours. No hemorrhages were seen in brains of animals which developed the hypertonicity later. In five rabbits the hypertonicity was corrected with hypotonic solutions. They recovered from the neurologic symptoms and the electroencephalograms returned to normal. On the postmortem examination their brains were found to be normal. In only one case were the subdural and subarachnoid hemorrhages found.

It seems to be quite probable that the clinical findings in our patient can be interpreted as brain damage resulting from processes similar to those observed in experimental animals of Sotos et al. The assumption would be that this patient suffered from intracerebral hemorrhages. The existence of multiple microscopic hemorrhages, predominately on the right side in the brain can explain sequelae in the form of epileptic seizures, unilateral paresis, and severe mental retardation.

It seems clear that the hypertonic dehydration must be considered the most important etiologic factor in the condition of this patient. The question as to whether the patient suffered from either secondary thrombosis of the cortical veins or secondary intracerebral hemorrhages remains unan-

swered for the time being. Regardless of the type of pathological processes involved the history of this patient indicates that the earlier the child suffering from diarrhea associated with acute dehydration is brought to the attention of a physician, the greater is the chance of prevention of brain damage.

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2. A. Dekaban: Neurology of Infancy. The Williams & Wilkins Co., Baltimore, 1959.
3. J. F. Sotos, P. R. Dodge, P. Meara and B. Talbot: Studies in Experimental Hypertonicity: I. Pathogenesis of the Clinical Syndrome, Biochemical Abnormalities and Cause of Death. Pediatrics 26: 925, 1960.

Excessive Preoccupation with Safety?

There can be little doubt that the drug amendments of 1962 were passed to protect you and the public from harmful drugs. I am afraid, however, that the Congress and the public expect more than this or any law can deliver and, as I have said before, as long as we have drugs, as long as we have airplanes and even bicycles, we will have accidents and the development of flaws that only time and wide-spread use will uncover. There is a hazard in everything we do. It is right that we should take all reasonable steps to minimize these hazards; but, in the field of drugs, trying to look at it objectively, I think we are entering an era in which we are excessively preoccupied with safety. The pendulum has been given a hysterical push. It can seriously interfere with the more important objectives of providing the tools to alleviate the ills that still afflict mankind. If we fail in this endeavor, we can lose more than we gain; and, as Alfred North Whitehead so wisely said, "Panic of error is the death of progress."—Theodore G. Klumpp, M.D., in *Illinois Medical Journal*, October 1963.

The Medical Society of Virginia

Council Minutes

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Fletcher J. Wright, Jr., President, at 12:45 P.M. on Wednesday, September 11, 1963, at Society Headquarters. Attending were: Dr. Richard E. Palmer, Dr. Russell Buxton, Dr. James M. Moss, Dr. Paul Hogg, Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. N. Thompson, Dr. Alexander McCausland, Dr. Dennis P. McCarty, Dr. C. C. Hatfield, Dr. Michael A. Puzak, Dr. Harry J. Warthen and Dr. Mack Shanholtz. Also attending were: Dr. Snowden C. Hall, Jr., 2nd Vice-President; Dr. Thomas S. Edwards, 3rd Vice-President; Dr. Callier Salley, Vice-Speaker of the House; Dr. Vincent W. Archer, Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the American Medical Association; Dr. Hiram Davis, Commissioner, Department of Mental Hygiene and Hospitals; Mr. John Duval and Mr. William Miller, attorneys for the Society; and Mr. Richard M. Nelson, Field Representative of AMA.

Dr. Wright then introduced Mr. John Booton, Virginia Society of Professional Engineers, who extended an invitation to the Society to become a member of the Virginia Association of Professions. Mr. Booton described similar associations which are now operating in Michigan, New York and North Carolina, and reported that a number of other states were in the process of organizing. It was learned that in addition to physicians and engineers, membership would be available to dentists, pharmacists, lawyers, veterinarians, and perhaps educators. The associations representing these various professions would, however, be the guiding lights.

Mr. Booton went on to say that the Michigan Association of Professions has been active in many areas—including politics. It was pointed out, however, that the Association would not duplicate or overlap in any way the primary function of VaMPAC.

Council was then requested to consider naming two representatives to meet with delegates from the other professional societies for the purpose of drawing a concrete proposal which could then be presented to each society for consideration. *It was then moved*

Although the October 6th minutes of Council were published in the December issue of the Virginia Medical Monthly, the pre-convention minutes of September 11, 1963, were omitted. They are published now for your interest and information.

that the President appoint one or more members to work with the Virginia Society of Professional Engineers in drafting plans for an Association of Professions, and that these members report back to Council at the appropriate time. The motion was seconded and adopted.

Mr. Stuart Ogren, Executive Director of the Virginia Hospital Association, was introduced and acquainted Council with several matters of concern to hospitals over the State. He stated that an attempt had been made at the last two sessions of the General Assembly to reverse the doctrine of charitable immunity as it applies to Virginia non-profit hospitals. This doctrine presently exempts charitable hospitals from liability for tortious wrongs to its beneficiaries. This immunity is not absolute, however, since liability to strangers and beneficiaries for injuries arising from corporate negligence remains.

Council was told that should this charitable immunity be lost, the cost of liability insurance would undoubtedly increase three, four and possibly up to six times the current premium rates. In states where immunity has been lost, many hospitals have found that adequate insurance coverage is simply not available. This was cited as one of the principal reasons why Virginia hospitals must have continued protection under the law.

A motion was then introduced which would have the matter referred to both the Legislative Committee and Advisory Committee to Medical and Allied Organizations for further study. The motion was seconded and adopted.

Mr. Ogren next described efforts being made to assist hospitals with their accreditation problems. This would be done by using special teams to conduct dry run surveys on hospitals requesting such action. It is proposed to set up four such dry run accreditation teams over the State. They would be located in Charlottesville, Roanoke, Richmond and Norfolk. Each team would be composed of a physician, hospital administrator and medical records librarian. The physician would study medical charts, minutes of staff and committee meetings, and thus determine whether the staff is functioning properly.

The Society was requested to assist the dry run accreditation survey effort by appointing four physicians to serve on the several teams. A question was raised as to whether each team should work its own

area or more distant ones. Most agreed that it would be best if the teams did not survey hospitals in their own areas.

In answer to a question concerning the legal liability involved, Mr. Duval expressed doubt that team members could be held liable.

A motion was then introduced by Dr. Wallace which would have the Society cooperate with the Virginia Hospital Association in setting up four dry run accreditation teams. The motion was seconded and adopted.

Council next heard Dr. J. Shelton Horsley, III, describe the Society's participation in the Health Careers Program of the Virginia Council on Health and Medical Care. The Program has grown to the point where 150 schools are visited each year. Dr. Horsley, who works closely with the Health Careers Program as the Society's Special Representative, explained that every student indicating an interest in medicine is written not only by the Council on Health and Medical Care, but also by The Medical Society of Virginia. Personal letters will be written by Dr. Horsley to those students who indicate further interest, and copies of the correspondence will be provided family physicians concerned. It is hoped in this way to enlist the assistance of physicians over the State in furthering the work of the Careers Program. Dr. Horsley explained that he was interested in seeing the Program realize its maximum potential, and would welcome any suggestions members of Council might have.

Dr. McCausland then moved that Council take recognition of the work being carried on by the Health Careers Program and urged component societies to cooperate in every possible manner. The motion also would invite Dr. Horsley to address the House of Delegates on October 6 in this connection. The motion was seconded and adopted.

Proposed amendments to the Constitution and By-Laws were then discussed by Dr. Salley. He stated that the most important question was probably that of whether a physician's place of residence should be used as the test to determine eligibility for component society membership, service on Council, representation in the House of Delegates, etc., or whether the place where he conducts the principal part of his practice should be used instead.

The question of whether the Executive Committee of Council should be increased to five members, and appointed by the President, was discussed at some length. Dr. Wright reported that he had polled all members of Council and found that most of them wished to have the matter discussed further. There

seemed to be general agreement that a five-man Executive Committee might be a bit large. There was also general agreement that it should be the prerogative of the President to appoint the committee.

It was then moved by Dr. McCarty that the size of the committee, and the method of appointment, remain unchanged. The motion was seconded and adopted.

Proposed Rules of Procedure for the House were reviewed and there was some question concerning whether the size of the Reference Committees should be increased. The thought was expressed that perhaps several non-members of Council should be added to each committee. It was also brought out that attendance at Reference Committee meetings left much to be desired, and considerable thought was given to effective methods of attracting better participation. A recommendation was made that the Official Program always carry an item stressing the importance of attending and participating in Reference Committee meetings.

It was then moved that the present Rules of Procedure be left unchanged and that a recommendation to this effect be presented to the House. The motion was seconded and adopted.

Dr. Wright introduced Dr. John Martin, Roanoke, who addressed Council as a representative of the Virginia Radiological Society. Dr. Martin first called attention to an action of the House of Delegates on October 16, 1962, which placed the Society on record as endorsing in principle the National Blue Shield Relative Value Schedule. He then referred to an action of Council on January 30, 1963, which stated that the Society had approved the Blue Shield Professional Services Index in principle only. He raised the question as to whether the Society had approved the Relative Value concept in principle or the Professional Services Index in principle. Since it was agreed that the Society had in fact endorsed the PSI in principle, some objection was voiced to calling it a relative value schedule.

Council learned that one of the main points of contention had to do with methods used to devise the PSI. It was reported that while a relative value schedule per se has nothing to do with fees, the PSI was in fact developed from some of the better Blue Shield schedules over the nation. Mr. Roy Battista, representing the Virginia Medical Service Association, explained that the PSI had been devised primarily for national Blue Shield accounts. He explained that the finest fee schedules available were used as a basis to develop a mathematical relationship between the various items. These relationships were tabulated

into four sections of the PSI and the unit values of each section are quite different. The thought was expressed that this does, in reality, make the PSI a relative value schedule.

In discussing the recommendation of the Reference Committee which considered the matter during the 1962 Annual Meeting, the thought was expressed that there might well have been a reporting error. Several expressed the feeling that the Reference Committee had intended that relative value schedules be approved in principle, and that no mention was to be made of any particular schedule—including the PSI.

Another thought expressed was that The Medical Society of Virginia should state that fee schedules are basically good and although medicine should review them continually, it nevertheless should have nothing to do with the mechanisms used in developing such schedules. Medicine should be primarily interested in seeing that the public is protected by fair charges.

Dr. Murrell then moved that The Medical Society of Virginia endorse in principle the establishment of fee schedules by Blue Shield subject to constant review by the profession. The motion was seconded. During discussion, Council was requested to refrain from endorsing any schedule by name. This might well prevent a particular segment of the profession from being placed in an awkward position.

A substitute motion was then introduced by Dr. McCausland which would have Council approve relative value schedules in principle. The motion was seconded and Dr. Murrell's original motion withdrawn. There followed some discussion as to whether the House should be requested to rescind its October, 1962, action in which the Blue Shield schedule was referred to by name. The motion was then adopted as originally introduced by Dr. McCausland.

Dr. Milton Cummins and Mr. William Shands, representing the Virginia Society of Podiatry, were next introduced. Dr. Cummins stated that podiatrists were most anxious to have certain of their services covered under Blue Shield contracts. He pointed out that podiatry is not a cult and is generally considered as an ancillary service to medicine. He went on to say that there are podiatrists on the staff of the Medical College of Virginia and that the relationship between medicine and podiatry is good. Council heard that while the services of podiatrists are covered under Blue Shield Government contracts, they are excluded under the Standard contracts. It was stated, however, that at least twenty-two Plans have amended their contracts and that others are expected to soon follow suit.

Mr. Shands expressed the feeling that it is only fair to Blue Shield subscribers for the services of podiatrists to be covered. He also mentioned that podiatrists are licensed and regulated by the State Board of Medical Examiners and that the modern podiatrist is well trained and qualified.

Mr. Nelson indicated that an AMA committee is presently studying the relationship of medicine to podiatry, and referred to a Judicial Committee report which had been tabled back in 1939.

After considerable discussion, it was moved and seconded that the Society reaffirm its previous position and action which recommended that the contract of the Virginia Medical Service Association remain unchanged. The motion carried.

Next on the agenda was consideration of a sickness and accident insurance program recommended by the Society's Insurance Committee. The program, to be administered by the David A. Dyer Agency, Roanoke, and underwritten by the Firemen's Fund, would supplement coverage currently available through a program underwritten by America Fore-Loyalty Group. The new program would feature 30-day and 6-month waiting periods and would not penalize members reaching the age of 70. It was stressed that the two programs would not be competitive.

A motion to approve the new program as recommended by the Insurance Committee was seconded and adopted.

Consideration was then given a request that the Society distribute 3,000 copies of the "Medical Guide for Physicians in Determining Fitness to Drive a Motor Vehicle." The total cost would be approximately \$450. Dr. Warthen stated that Dr. Fletcher Woodward was most interested in having the Guides distributed, and the thought was expressed that this might well be a good thing for both public and professional education.

It was learned, however, that the Guides could be obtained by individual physicians from the American Medical Association upon request. *A motion not to purchase the Guides, but rather to publicize their availability from AMA, was seconded and adopted.*

Council learned that plans for a State-wide Conference on the Virginia State-Local Hospitalization Program were proceeding nicely. It was also learned that a request has been received for \$500 to help cover the cost of publishing a detailed report of the Conference. Dr. Edwards believed this to be most important, and urged that an appropriation be authorized. *It was moved and seconded that the request be referred to the Finance Committee with Council*

approval, and that \$500 be appropriated if the committee finds it feasible. The motion carried.

Mr. Duval brought Council up to date on efforts of a particular closed panel health association to establish an operation in Northern Virginia. Such an operation would first require that the Virginia Code be amended. Although an effort in this direction was made during the 1960 session of the General Assembly, the bill concerned was lost in committee. Recent inquiries by representatives of the association would indicate that another effort might well be made during the 1964 session.

In discussing possible Society action, a question was raised as to whether The Medical Society of Virginia currently opposes closed panel type health insurance programs. A motion which would refer the entire question to an appropriate committee in an effort to determine whether the Society should deviate from its past policy was not seconded.

A motion was then introduced by Dr. Hatfield which would have Council reaffirm its opposition to closed panel practice of medicine. The motion was seconded. It was then amended in such manner as to also express opposition to corporate practice. The motion, as amended, was adopted.

Dr. Hogg reported that his Finance Committee had given quite a bit of thought to existing policies having to do with committee expenses. It is the Finance Committee's recommendation that (1) committee chairmen should present the Society with a statement covering cost of meals only—not for transportation or cocktails; and (2) the matter of reimbursement for expenses incurred in attending interim meetings of Council should be left to individual Council members.

A motion to approve the two recommendations was seconded and adopted.

A resolution from the Newport News Medical Society, which recommended legislative action to permit the reporting by an attending physician of epileptic persons possessing motor vehicle drivers' licenses and suffering from convulsive seizures, was considered. Dr. Davis stated that this very question is among several being studied at the present time by a Special VALC Committee. Mr. Duval expressed the opinion that physicians can, at the present time, report such information to the proper authorities, and would appear to have a duty to the public to do so.

It was then moved that the Newport News resolution be referred to the Society's Committee on Traffic Safety. The motion was seconded and adopted.

Next to be considered was an invitation to the Society to become a sustaining member of the Student American Medical Association. Such membership would require annual dues of \$100. Several questions were raised concerning positions taken by SAMA on the King-Anderson bill and the student loan provisions of the bill providing for federal aid to medical education. SAMA had taken stands contrary to those of medicine. Brought out was the fact that \$250 has been budgeted for the past several years for the chapter at the Medical College of Virginia and is available upon request. No chapter exists at the University of Virginia.

It was moved that the Society decline the invitation to become a sustaining member of the Student AMA and that the organization be informed of the support provided the local chapter. The motion was seconded and carried.

After considering a resolution from the Virginia Academy of General Practice which opposed certain tactics by the Food and Drug Administration deemed detrimental to drug research and freedom of medicine, Council decided that The Medical Society of Virginia should compose a resolution of its own. *A motion by Dr. Hatfield which would defer Society action at the present time was seconded and adopted.*

A follow-up motion by Dr. Buxton requested that an appropriate person be asked to compose and present a suitable resolution on the subject at the next meeting of Council. The motion was seconded and adopted.

Attention was then directed to a location and date for the 1967 Annual Meeting. Dr. Moss reported that he, Dr. Palmer and Dr. Puzak had surveyed the facilities of the Marriott Twin Bridges Motor Hotel, Alexandria, and were quite impressed. The Marriott facilities have been greatly improved in the past year and would appear to be quite adequate. *A motion by Dr. Moss to hold the 1967 meeting at the Marriott was seconded and adopted.*

Council was advised that attendance at Annual Meetings is becoming quite a problem. It was learned that one of every five medical societies in the country is actually losing attendance each year. Eight of ten are barely managing to hold their own. A suggestion was made that the Society give serious consideration to meeting at the end of the week rather than the beginning. It was felt that more physicians would be able to get away from home—particularly on Saturday and Sunday.

It was moved by Dr. Buxton that the 1967 meeting be scheduled from Thursday, October 19, through Saturday, October 21—the matter of a one-half day

meeting on Sunday, the 22nd, remaining flexible. The motion was seconded and adopted.

There was some support voiced for having the various specialty groups actually take over the scientific portion of the meeting—each group sponsoring a short scientific program of its own. In this manner several scientific sessions could be running simultaneously, and members would have an excellent choice.

With this thought in mind, it was moved that Council contact the various specialty groups and determine whether they would be interested in presenting their own scientific sessions during the 1967 meeting. The motion was seconded and adopted.

Presented next was a report dealing with Society support of VaMPAC. It was learned that nearly \$800 had already been contributed thus far this year. Much of this was due to the fact that no contributions, other than from the Society, had been earmarked for administrative and educational purposes. All funds received from individuals will be used for candidate support. Thus far, VaMPAC has received \$4,426—with approximately \$1,000 going on to AMPAC.

During the ensuing discussion, it was brought out that VaMPAC's primary concern is with candidate support at the national level. Doubt was expressed that any funds should be allocated to local elections.

It was estimated that VaMPAC will need a contribution of \$500-\$1,000 from the Society for its operation during the next fiscal year. This information will be passed along to the Finance Committee.

Dr. Finch, reporting for the Committee on Maternal Health, stated that a backlog of maternal death

cases was accumulating and that every effort was being made to have them worked up just as soon as possible. Attention was called to the fact that Council had, two years ago, agreed to contribute \$250 to assist the committee and the State Department of Health in the maternal death study. Unfortunately, Dr. Shamburger had been unable to take on the work. Now, however, the committee proposes to use a resident in obstetrics to do the work for a fee of \$20 per case plus travel expenses. It was believed that the personal contact method was the only way to really get the job done. Council then requested that the Finance Committee be advised of the request for a \$250 appropriation.

Dr. Finch next advised that the Board of Medical Examiners is quite interested in helping our medical schools obtain the services of distinguished foreign physicians for clinical work. This is not possible under Virginia's present law. What is needed is an amendment to the law which would permit the Board to exercise certain discretionary powers when deemed justifiable.

It was also learned that an effort will probably be made to bring clinical psychologists under the Board of Medical Examiners for purposes of licensure and regulation. Dr. Finch stated that Dr. Cox would discuss these matters in more detail on October 6.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

APPROVED: FLETCHER J. WRIGHT, JR., M.D.
President

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W. B. Saunders Company features the following new books and new editions in their full page advertisement appearing elsewhere in this issue:

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Antique Show and Sale.

The second annual antique show and sale, sponsored by the Auxiliary to the Richmond Academy of Medicine, will be held at the Jefferson Hotel, Richmond, March 5-7. There will be dealers displaying china, clocks, crystal, furniture, rugs, jewelry, guns and coins. All items will be for sale except four displays exhibited for the enjoyment of patrons. There are forty-one dealers coming from the New England States, New York, New Jersey, Pennsylvania, Maryland, Washington, Virginia, Tennessee and North Carolina.

Proceeds from the show will be divided between the Sheltering Arms Hospital and Crippled Children's Hospital.

Mrs. W. Linwood Ball is general chairman and Mrs. F. Elliott Oglesby, assistant chairman.

Richmond.

"Variety is the spice of life"—this truism is indeed providing itself in the programs that have been planned for the Woman's Auxiliary to the Richmond Academy of Medicine for the year 1963-64. The highlight of the fall was the Community Service luncheon, held in November, at which time Mr. Richard B. Nelson, Field Representa-

tive for the A.M.A., spoke on medical legislation before the Congress, with specific reference to the King-Anderson Bill. His talk "The Choice is Yours" put it squarely in the laps of the Auxiliary members and their guests. This is an annual luncheon to which the Presidents of all the Women's Organizations in the Richmond area are invited to be the guests of the Woman's Auxiliary and the Richmond Academy of Medicine. At the first luncheon meeting of the fall, Dr. Earnest Carpenter spoke on his two-month volunteer orthopedic service in Jerusalem and the Holy Land during the summer of 1962; he also showed many interesting slides which he and his family had taken. Dr. Ebbe Hoff gave a dramatic talk on "Alcoholism in Women" at another meeting, which in addition to being most interesting was filled with hope for the problem. Programs planned for 1964 include a talk on "Virginia Pioneers in Health and Medical Care" presented by Mr. Edgar J. Fisher, Director of the Virginia Council on Health and Medical Care, and the Assistant Director, Mrs. Cynthia Warren. "The Chaplaincy Program in Richmond Institutions" such as the Richmond Nursing Home, will be discussed by the Rev. Arthur Graham. Dr. Richard Egdahl will talk on his trip to Moscow and the medical institutions he visited while there. In March Mrs. James M. Moss, State Auxiliary President, and Mrs. W. Nash Thompson, President-elect, will be the guests of the Auxiliary on the day following the Mid-Year Board Meeting. Over 100 members of our Auxiliary are actively engaged in planning and carrying out details for the second annual Antique Show and Sale, to be held at the Hotel Jefferson on March 5, 6, and 7. The Auxiliary feels it is truly living up to the objectives of its By-Laws and hopes to be able to look back on this year as one of achievement, enriched by enjoyment and goodly fellowship.

Modern Military Medicine

THE DECEMBER issue of *U. S. News & World Report* contained an article entitled "The Revolution At Service Academies". In the course of this article, which stated "There is a fresh wind sweeping through America's military schools, shattering tradition and forcing change", were included three thumbnail sketches of the top men in the senior class at West Point, Annapolis, and Colorado Springs. Wing Commander James Ingram, ranking senior cadet of the Air Force Academy stated in his interview "after graduation I plan to go to medical school, then become a flight surgeon in the Air Force."

This is a far cry from the service academy graduate of a few decades ago who looked down his nose on all medical offices as non-combatants who might be capable of conducting sick call for enlisted personnel but were not trusted to treat the members of the officer's family if a civilian physician could be obtained. Unquestionably some of the pre-World War II career physicians in the Armed Services deserved this evaluation but the standard of medical practice found in the military services since Pearl Harbor has been superior to that generally available to the civilian population. Today the members of the military realize they are receiving a superior type of medical care. They also have learned to appreciate the physician who elects to follow a career of military medicine and his status has risen accordingly.

By the same token the enormous influx of well-trained civilian physicians into the medical services during World War II brought about a complete change in the attitude of the "regular" Army and Navy physicians toward modern and progressive medicine. To the surprise of many this attitude has continued unabated. The young and tradition-free Air Force doubtless deserves much credit for many innovations in service medicine, but the older, more barnacle-incrusted services have not lagged behind in adopting the best that modern medicine has to offer.

Each November a group of civilian physicians who served during World War II who are now designated Medical Consultants to the Armed Services, meet in Washington, where their advice is sought and frequently followed, concerning training programs and research activities in the Army and Navy. About 200 busy physicians from all parts of the country attend these two-day meetings. The fact that they return year after year at their own expense to aid in this unpublicized activity is indicative of the value they place on these meetings.

At the last meeting of the Consultants the Surgeons General of the Army and Navy outlined the policies of the service academies with regard to cadets and midshipmen entering medical schools. During the past few years graduates of West Point and Annapolis have been encouraged to study medicine in order that the Armed Services may have a nucleus of medical officers with a military background.

Each West Point graduate who desires to enter medical school is given a five-year leave of absence. This enables the recently commissioned officer to spend one year in pre-medical studies so that the required sciences that are not included in the service curriculum—chiefly organic chemistry and biology—may be obtained. The next four years are spent in medical school. Most of these students attend Cornell, George Washington or Duke University. The officer does not receive a salary during this leave of absence, but the Army provides work during the summer of a medical nature, which defrays to a considerable extent the cost of his medical education. The five years devoted to medical education, however, do count toward promotion and other benefits a line officer on active duty would receive during the same period of time.

The three surgical residents currently assigned to Walter Reed Hospital are graduates of the United States Military Academy, and 16 other graduates are participating in various phases of this program at the present time. The Navy has a somewhat similar plan. An interesting variation is that midshipmen who have to withdraw from Annapolis because of reasons of health are urged to study medicine so their services may be utilized in this essential, though non-combatant, capacity.

This all speaks well for the type of medicine the Armed Services desire and the caliber of medical care they are receiving. It also is reassuring to know our national safety is guarded by an Army, Navy and Air Force that places this high premium on excellence.

HARRY J. WARTHEN, M.D.

New Members.

The following new members were admitted into The Medical Society of Virginia during the month of December:

Rodney Lynn Belcher, M.D., Arlington
Frederic Paul G. Kosbab, M.D., Norfolk
Hubert Walter Kuehn, M.D., Va. Beach
John B. Radford, M.D., Richmond
Eric Manfred Reinhardt, M.D.,
Middleburg
Willcox Ruffin, Jr., M.D., Norfolk
George Baer Shepherd, M.D., Norfolk
Girard Vaden Thompson, Jr., M.D.,
Chatham
Reuben Barnes Young, M.D., Richmond

New Officers.

The following component societies have reported new officers for 1964:

Accomack County Medical Society
President—Dr. Belle DeCormis Fears,
Accomack
Secretary—Dr. William Fritz, Onancock

Alexandria Medical Society
President—Dr. Adrian J. Delaney,
Alexandria
Secretary—Dr. Harold J. Berman,
Alexandria

Arlington County Medical Society
President—Dr. Joseph O. Romness,
Arlington
Secretary—Dr. Gerald J. Fisher,
Arlington

Patrick-Henry County Medical Society
President—Dr. Harry Foster, Jr.,
Martinsville

Vice-President—Dr. E. C. Paarfus, Stuart
Secretary—Dr. Marion D. Richmond,
Martinsville

Prince William County Medical Society
President—Dr. J. L. Mathews, Jr.,
Haymarket

Vice-President—Dr. Harvey B. Williams,
Jr., Woodbridge
Secretary—Dr. J. Paul Wampler,
Manassas

Richmond Academy of Medicine
President—Dr. J. Robert Massie, Jr.,
Richmond
President-Elect—Dr. M. M. Pinckney,
Richmond
Vice-Presidents—Drs. D. D. Talley, III,
and Arthur Klein, Richmond
Recording Secretary—Dr. H. Fairfax
Conquest, Richmond
Sergeant-at-arms—Dr. Randolph Trice,
Richmond

Rockingham County Medical Society
President—Dr. Richard H. Smith,
Harrisonburg
Secretary—Dr. James R. Sease,
Harrisonburg

Tazewell County Medical Society
President—Dr. E. L. Kirby, Richlands
Secretary—Dr. Robert A. Abernathy,
Richlands

Williamsburg-James City County Medical Society
President—Dr. Kurt T. Schmidt,
Williamsburg
Secretary—Dr. John S. Fletcher,
Williamsburg

Dr. T. Stacy Lloyd

Has been elected president of the Fredericksburg Area Chamber of Commerce. He served as a vice president during the past year.

Members of Alpha Omega Alpha.

Dr. William Parson, University of Virginia, and Drs. Kinloch Nelson and Peter N. Pastore, Medical College of Virginia, have been made members of Alpha Omega Alpha, honorary medical society.

Dr. Neil Callahan,

Portsmouth, has been named secretary of the section on otolaryngology of the Southern Medical Association.

Portrait Unveiled.

An oil portrait of the late Dr. Harold Miller, Sr., Woodstock, has been presented the Shenandoah County Medical Hospital. It was given by the members of the 1960 Holy Land tour of which Dr. and Mrs. Miller were members.

Dr. William C. Humphries,

Front Royal, has been elected to the Board of Directors of the Citizens National Bank of that city.

Dr. John F. Kendrick

Has been elected president of the Richmond Area Mental Health Association.

Dr. DuPont Guerry, III,

Richmond, has been appointed a member of the advisory committee on basic and clinical research of the National Society for the Prevention of Blindness.

Osteopetrosis and Osteogenesis Imperfecta

The cooperation of physicians is requested in the referral of patients with osteopetrosis and patients with osteogenesis imperfecta for studies of calcium metabolism in these conditions underway at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Patients should be between the ages of 21 and 51, in good general health, without gastrointestinal or renal disease. They should be ambulatory, and able to remain in the hospital three to four weeks for blood tests, radioactivity measurement, and a metabolic balance routine.

Upon completion of the study, patients will be returned to the care of their referring

physicians, who will receive a complete narrative summary and report of our findings.

Physicians interested in having their patients considered for admission to this study should write or telephone: Dr. Leon E. Rosenberg, Metabolism Service, National Cancer Institute, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 49-63097 (Area Code 301)

Hospital Staff Members.

Dr. E. W. Gilbert, Luray, has been elected for a third term as president of the Page Memorial Hospital Board of Directors.

Dr. Keith M. Oliver, Purcellville, has been elected chief of staff of the Loudoun County Hospital Medical Staff, with Dr. Harold M. Jackson, vice chief, and Dr. George Hocker, secretary-treasurer. Dr. Joseph M. Rogers was named head of the department of general practice of medicine; Dr. James T. Jackson, surgery; Dr. John T. Wynkoop, obstetrics and gynecology; Dr. William G. Battaile, pathology; and Dr. Ludwig Kroustil, radiology.

Dr. Gilman R. Tyler has been re-elected chief of staff of the Richmond Memorial Hospital. Dr. A. I. Dodson, Jr., has been named vice chief and Dr. Carl W. Meador, secretary. Division heads are: Dr. W. C. Gill, Jr., general practice; Dr. W. R. Jordan, medicine; Dr. Merritt W. Foster, Jr., psychiatry; Dr. Maurice Vitsky, obstetrics and gynecology; and Dr. Owen Gwathmey, surgery.

Dr. William F. Bernart, Nassawadox, has been elected president of the staff of the Northampton-Accomack Memorial Hospital, with Drs. Belle DeCormis Fears, vice president; Dr. J. Fred Edmonds, secretary-treasurer; and Drs. H. L. Denoon, E. W. Bosworth, A. W. Mears, and E. M. Henderson, executive committee members.

Post-Graduate Day.

The fifteenth annual Post-Graduate Day Program of the Roanoke Memorial Hospitals will be held on March 19th and 20th. The program will be as follows: On the 19th—CPC on Liver Disease by Dr. Franklin M. Hanger, Staunton; The Central Lymphoid Tissue, Immunologic Deficiencies, Auto-Immune Diseases, and Malignancy by Dr. Raymond D. A. Peterson, University of Minnesota; Current Status of Gastric Hypothermia by Dr. Julian Ruffin, Duke University; What Surgical Procedure for Which Ulcer Patient by Dr. H. William Scott, Jr., Vanderbilt University. Dr. Timothy Takaro, Oteen, North Carolina, will be the evening speaker, his subject being Experiences During Three Months Tour of Russian Hospitals. On the 20th, the members of the Radiology Department, Drs. C. D. Smith, J. A. Martin, W. F. Weller, R. D. Knopf, and J. K. Cobb will present: Clinical presentations illustrating value of recent advances in scanning of brain, thyroid, heart, liver, kidneys and spleen; Image Intensification; and Cobalt Therapy. Clinical experience with the use of Echo Encephalography will be given by Dr. Jack B. Campbell, surgery resident, and Drs. E. N. Weaver, W. P. Tice, and J. D. Varner, members of the neurosurgery staff.

Virginia physicians are invited to attend and may receive further information from the chairman, Dr. Charles L. Crockett, Jr., Roanoke Memorial Hospitals, Roanoke, Va.

The Virginia Pediatric Society

Cordially invites you to attend the annual meeting at the Conference Center in Williamsburg, February 28 and 29, 1964.

The guest speakers will be: Alexander S. Nadas, M.D., Associate Clinical Professor of Pediatrics, Harvard Medical School, Cardiologist, Children's Hospital, Boston; Giulio J. Barbero, M.D., Assistant Professor Pediatrics, University of Pennsylvania Medical School; Jerome L. Schulman, M.D., Associate Professor Pediatrics, Northwestern Univer-

sity Medical School; William E. Laupus, M.D., Professor and Chairman of Department of Pediatrics, Medical College of Virginia; William G. Thurman, M.D., Chairman and Professor of Pediatrics, University of Virginia Medical School; Arnold M. Salzberg, M.D., Department of Pediatric and Thoracic Surgery, Medical College of Virginia; and Charles E. Horton, M.D., Plastic Surgery, Norfolk.

The Ladies Program on February 28 will feature a talk by Stanley Spiegel, Ph.D., psychologist, Norfolk.

A large attendance is anticipated and you are urged to make reservations now with Mary R. Thompson, Reservations Manager, Williamsburg Lodge, Williamsburg.

Southern Medical Association.

Dr. Robert D. Moreton, Fort Worth, Texas, was installed as president of this Association at its annual meeting in New Orleans in November. Other officers are: president-elect, Dr. R. H. Kampmeier, Nashville; vice-presidents Dr. J. Garber Galbraith, Birmingham, and Dr. C. Barrett Kennedy, New Orleans.

The next meeting of this Association will be held in Memphis, November 16-19, 1964.

International Academy of Proctology.

The Sixteenth Annual Teaching Seminar of the Academy will be held at the Deauville Hotel, Miami Beach, Florida, February 29th through March 5th.

Associates.

Generalist, Richmond, Virginia, environs. Clinical type practice. Will teach or may do limited surgery and EENT if interested. Salary with extras first, then partnership. Send complete biography to Box 80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obstetrician-Gynecologist.

Group of nine physicians need an obstetrician-gynecologist associate. Prefer Board

Certified or Board eligible doctor. Write #75, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Wanted.

Physician for staff position in medical department of chemicals company with approximately 4,000 employees; liberal benefits; salary commensurate with experience and qualifications; State license required; age limit 65. Write E. Q. Hull, M.D., Medical Director, P.O. Box 8004, South Charleston 3, West Virginia. (*Adv.*)

Resident Wanted.

Two Pulmonary Disease Residencies. 200 bed section, VA Hospital, Richmond. Affiliated with the Medical College of Virginia. Offers training in diagnostic facilities, treatment acute and chronic pulmonary diseases including tuberculosis. Research available. U. S. citizenship required. \$5575 a year. Write Chief of Staff, VA Hospital, Richmond, Virginia 23225. (*Adv.*)

Physician Wanted.

Staff Psychiatrist, to assist three psychiatrists, 109-bed psychiatric service. Teaching affiliation with the Medical College of Virginia. Excellent opportunity for teach-

ing and research. Salary up to \$16,245, depending on qualifications. Many fringe benefits. Board diplomate or board eligible and licensed any state required. Write Chief of Staff, VA Hospital, Richmond, Virginia 23225. (*Adv.*)

Internist Wanted.

Board eligible or certified. Associate with established internist in Valley of Virginia. Practice limited to hospital and office. Salary one year, then partnership. Send resume in first letter, including military status. Write Box 85, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

For Sale.

Office Building in Dade City, Florida. Eight rooms, 100 milliamp x-ray, ample parking space. Contact J. S. Williams, M.D., VA Hospital, Gulfport, Mississippi. (*Adv.*)

For Sale.

Scaling unit with probe scintillation counter, Nuclear-Chicago, in perfect condition. Suitable for Radio-Iodine Uptake Studies of thyroid function. Write Box 90, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries

Dr. Lucius Hazeltine Bracey,

South Hill, died January 4th. He was sixty-two years of age and a graduate of the Medical College of Virginia in 1928. Dr. Bracey had practiced in South Hill for thirty-three years. He was a charter member and past president of the Rotary Club, a Mason and member of Acca Temple Shrine. Dr. Bracey was formerly chief of staff of the Community Memorial Hospital. He had been a member of The Medical Society of Virginia since 1930.

His wife, a daughter and a son survive him.

Dr. Thomas Watkins

Was robbed and slain outside his home at Drakes Branch on December 18th. He was apparently returning from a call and was getting out of his car in the backyard of his home when he was attacked. Dr. Watkins was eighty-one years of age and a native of Halifax County. He graduated from the Medical College of Virginia in 1904. He practiced for some time in Arizona and returned to Drakes Branch to retire twenty-four years ago. When the town lost its only doctor, he resumed practice and had continued ever since. Dr. Watkins had been a member of The Medical Society of Virginia for twenty-five years.

A sister and a brother survive him.

Dr. Russell Bruce Smiley,

Salem, died December 27th, at the age of fifty-five. He was a graduate of the Medical College of Virginia in 1933. Dr. Smiley was a medical examiner in Roanoke County and Salem health officer for ten years. He was also staff physician at Roanoke College. Dr. Smiley was a member of the Salem Kiwanis Club and had been a member of The Medical Society of Virginia since 1941.

His wife, a son and a daughter survive him.

Dr. Willard Epperly Lee, Jr.,

Greenville, North Carolina, died December 14th. He was thirty-six years of age and a graduate of the Medical College of Virginia in 1955. Dr. Lee was a resident in psychiatry at the VA Hospital, Richmond, and served on the staff of the VA Hospital in Roanoke before moving to North Carolina. At the time of his death, he was psychiatrist-director of the Pitt County Mental Health Clinic. He was a member of The Medical Society of Virginia.

His wife and a son survive him.

Dr. Caudill.

Dr. Walter Cleveland Caudill, Pearisburg, died January 18, 1963, at the age of 74. He was a graduate of the Medical College of Virginia in 1913 where he served his internship. He then located in Pearisburg where he practiced till World War I in which he served for 18 months. Following this, he returned to Pearisburg where he practiced till his death.

In 1923 he founded the St. Elizabeth Hospital in Pearisburg which he owned and operated till 1950. Seeing the need of a larger hospital for a growing community, he was instrumental in founding the present Giles Memorial Hospital which opened in 1950. He was the first president of the Medical Staff of Giles Memorial Hospital and served on its official board till his death.

Dr. Caudill served 20 years in the General Assembly of Virginia, four years as a Delegate, and 16 as Senator. He was sponsor of the Medical Examiner System in Virginia. He was a past President of the Southwest Virginia Medical Society and The Medical Society of Virginia.

WHEREAS in the passing of Dr. Walter Cleveland Caudill, we, the members of the Medical Staff of Giles Memorial Hospital, recognizing our great loss and that of the community wish to pay tribute to his memory; his ability to show patience, tolerance and understanding in all his dealings, will never be forgotten.

NOW, THEREFORE BE IT RESOLVED: that we convey to his family our sincere sympathy and our deep respect for his memory and that a copy of this resolution be spread upon the minutes of the Medical Staff of Giles Memorial Hospital, a copy published in the Virginia Medical Monthly and a copy sent to his family.

Guest Editorial

Before the Mortician Arrives

DEATH—A dreaded word for a patient's family. When this occurs, the doctor, diplomatically must inform the family of their loss, and very often secure permission to perform a post-mortem examination.

We, as embalmers, know the importance of such examinations, and sincerely advocate them. However, our operation is made more difficult by such action. To assist our mutual professions in resolving our problems, the following suggestions are humbly submitted:

The most ideal time to embalm, and achieve best results, is between somatic and cellular death. However, when an examination is to be performed, a delay is naturally expected. If this delay is more than twelve hours, beyond the rigor mortis stage, decomposition has commenced in the tissues. Arterial injection is, in most cases, ineffective and hypodermic injection is used. As is evident, a natural appearing body is jeopardized.

By this action the family is distressed, blaming both our professions. The medical profession in delaying the release of their loved one, and our profession for distorting the exposed areas. A solution to this problem would be to perform the examination immediately after death, if at all possible.

We also encounter difficulty, occasionally, when the brain is removed during a head examination. If subject has little or no hair and the incision is made too far forward, the sutures are extremely difficult to camouflage. In this same area the calvarium should be notched so as to fit when replaced.

In the thoracic and abdominal areas, all major arteries, both carotids, subclavians and common iliacs, should be cut as long as possible and tied with thread. This will assist the embalmer in locating arteries and also in securing proper distribution of embalming fluid.

In a death when any contagion is suspected, inform the embalmer directly, or tag the body accordingly.

We have been approached by members of a family in which the deceased consented, before death, to donate his eyes to an eye bank. This is most prevalent when death occurs at the residence of the deceased. The family, at this time, informs us of this request and seeks our advice. It would behoove our professions to have a definite procedure to follow in achieving the end results. When death occurs at a hospital the physician generally is informed prior to death and is prepared to perform the operation.

As the medical profession advances, it is conceivable that other organs of the dead may be beneficial to the living. We heartily concur with this humanitarian act and will cooperate with the medical profession in prompt action at the time of death.

Finally, expediency in signing the death certificate is very important.

To those of you who entertain the thought that viewing a dead body is repulsive, the writer wishes to convey the following thought. The vast majority of families express the desire to view their loved ones at death. Psychologically, this tends to alleviate their grief.

DANIEL J. DORCHAK

Richmond, Virginia

Radioisotope Therapy in Nuclear Medicine

E. RICHARD KING, M.D.
Richmond, Virginia

Radioisotopes have been used in therapy for only a few years but already nuclear medicine therapy is a large field. Without doubt, it will continue to grow rapidly.

ARTIFICIAL RADIOISOTOPES, those made by man, have been used in medicine for about a quarter of a century. The therapeutic applications of radioisotopes will be discussed in this paper. The oral and parental administration of radioisotopes has, in general, been designated as nuclear medicine therapy, but it must be remembered that other artificial radioisotopes are also used in therapy as substitutes for radium, radon, and certain external beam therapy units. This latter use is practically always in the treatment of cancer, and comes under the general heading of Radiation Therapy. These latter uses are beyond the subject matter of this paper.

First we should mention the requirements of isotopes to be used in nuclear medicine therapy, and such requirements are listed in Table I. Since there are some terms in this table which have been borrowed from the physicist, we will briefly define them. The first requirement lists that fairly energetic beta particles should be used and the \bar{E}_B listed is the symbol for the average energy of the beta particles. The physical half-lives has been defined as the time required for

one-half of the radioactivity of radioisotopes to decay. The term biological half-life is not restricted to radioisotopes, but can be used in describing the rate of elimination of any agent which is administered to an individual. Biological half-life is the time required for 50 percent of administered material to be eliminated, in some manner or other, from the individual.

I. Requirements for Ideal Therapeutic Radioisotopes

1. Pure Beta Emitter—fairly energetic ($\bar{E}_B = 0.5 - 1.0$ Mev)
2. Moderately Long PHYSICAL HALF-LIFE (2-14 days)
3. Moderately Long BIOLOGICAL HALF-LIFE (4-10 days)
4. Biological Localization in Desired Organ or Tumor
5. Biological Acceptability for Desired Use
6. Low Toxicity
7. Available at Relatively Low Cost

There are few radioisotopes that are ideally suited for therapeutic applications. Such a radioisotope should be a pure beta emitter as the desire is to deliver a dose in the immediate vicinity of the isotope deposition. If energetic gamma rays are present, they would add an unwanted radiation dose to the healthy tissues and organs surrounding the organ or tumor to which the therapy is to be directed. Gamma rays also complicate the storage, handling and administration because of the resultant health hazard problems. In addition, the half-life is important. If the half-life is too short, less than two days, the initial radioactivity which must be administered to deliver the

KING, E. RICHARD, M.D., *Chairman, Division of Radiation Therapy and Nuclear Medicine, Medical College of Virginia.*

Presented to the Tenth International Congress of Radiology, Montreal, Canada, 1962.

radiation dose would be very high, which would complicate the therapy procedure. Likewise, if the half-life is too long, over fourteen days, a prolonged time would be required to deliver the therapy dose desired. The radioisotope should localize in the organ or tumor that is of interest, or it should be possible to label a compound which will localize as desired. The isotope or the compound should not be toxic and it should be relatively carrier free. By carrier free, we mean that there should be little or none of the stable element present in the radioisotope. For instance, carrier free iodine¹³¹ would contain almost a hundred percent iodine¹³¹ and no stable iodine. The radioisotope or the labeled compound should be of a biochemical nature that would make it adaptable to the type of treatment intended. If it is to be administered orally, it should be in a form that will be easily absorbed in the upper gastro-intestinal tract. If it is to be administered intravenously, it should be sterile and in a soluble form with a relatively neutral pH. The radioisotope or labeled compound should be available in the desired activities, and should be relatively economical. This latter requirement automatically eliminates many of the cyclotron produced isotopes from therapeutic application.

We will now discuss the radioisotopes presently used in a more or less routine manner. We have taken the liberty of dividing these according to the subspecialty to which they are applicable.

II. Routine Therapy

Endocrinology	1) Hyperthyroidism	I ¹³¹
Cardiology	1) Angina Pectoris	I ¹³¹
	2) Cardiac Decom-	
	pensation	
Hematology	1) Polycythemia	
	Rubra Vera	P ³²
	2) Chronic Leukemia	
Oncology	1) Skeletal Metastases	P ²³
	from Carcinoma of	
	Breast or Prostate	

2) Malignant	Au ¹⁹⁸
Effusion of	P ³²
Serosal Cavities	Y ⁹⁰
3) Carcinoma of the	I ¹³¹
Thyroid	

Treatment for hyperthyroidism with I¹³¹ is the oldest use of radioisotopes in therapy. Original work which was performed almost simultaneously in San Francisco and Boston was reported in the Annals of Internal Medicine nearly 25 years ago. From this pioneer work this particular mode of radioisotope therapy has been widely accepted, and there have been thousands of patients with the diagnosis of hyperthyroidism who have been rendered euthyroid. This form of therapy has world-wide acceptance and with the exceptions of the contraindications indicated below, it is no doubt the best form of treatment for this disease.

III. Treatment of Hyperthyroidism

Contraindications:	1) Young patients
	2) Pregnancy
Dosage:	1) 6000-8000 rad, delivered to thyroid, or
	2) 80-120 . I ¹³¹ /gm. retained in thyroid, or
	3) 4-7 mc. I ¹³¹ orally, arbitrary dose (cases may require additional therapy)
Complications of Therapy:	1) Acute Leukemia
	2) Thyroid Nodule formation in treated children
	3) Thyroid Crisis
	4) Myxedema

We do not usually treat young patients for two reasons: One reason is that there is always the possibility of the radioactive material acting as a carcinogenic agent. Although there have been no cases reported in the literature of cancer of the thyroid developing in patients who were treated for hyperthyroidism with iodine I¹³¹, the possibility always exists that such instances will be

reported in the future. It is a well-known fact that a period of about 20 years is required for cancer to develop due to irradiation. The second reason we do not care to treat young people is that there is a possibility that the individuals in the childbearing age, or prepubertal age, will have their germ structure detrimentally affected by the radiation. It should be stated that there is no proof that iodine in the doses used to treat hyperthyroidism will cause either cancer nor detrimentally affect the primary sex cells. Our age limit is set around thirty-five years at our institution. There are exceptions to this age limit, and occasionally young individuals are treated.

The dosage to be administered may be determined in different ways. One may decide to deliver a certain dose of radiation to the thyroid and this dose usually ranges from 6000 to 8000 rad. The predetermined dose formula is readily available in the literature. One may determine that the dosage depends upon the radioactivity retained in the gland, and here the desired retained activity is usually 80 to 120 microcuries of I^{131} per gram of thyroid. Both of these methods require a determination of the weight of the thyroid gland, which is very difficult from clinical examination. Also, the above methods require the determination of the effective half-life of this radioisotope in the individual patient. Again, this is quite difficult to do unless one takes approximately two weeks' time for the effective half-life determination either by thyroid counting or by radioassay of excreted urine. The third method is to administer an arbitrary dose of 4 to 7 millicuries, orally, understanding that the patient will quite likely require an additional treatment within approximately three months.

One complication of radioiodine therapy of hyperthyroidism is acute leukemia, which has been reported with increasing frequency. There appears to be some doubt as to whether this occurrence may be due to the radioisotope therapy, or whether it is an incidental

occurrence that would occur in the same number of individuals not treated. Also, the formation of thyroid nodules in young individuals who were treated as children for hyperthyroidism must be considered. The occurrence of thyroid crisis as a complication of this form of therapy is very rare. The present use of anti-thyroid drugs has decreased the incidence of crisis following either surgery or iodine¹³¹ therapy to a very low figure. Myxedema of course, does occur sometimes in individuals who have been overtreated, and it is extremely difficult in some cases to determine the optimum dose to deliver in order to render the patient euthyroid but not resulting in myxedema.

IV. Treatment of Euthyroid Cardiac Disease

Contraindications: 1) Patients who can be managed by accepted medical regime

Dose: 1) 15-30 mc. I^{131} orally (may require additional therapy)

Complications of Therapy: 1) Myxedema

Radioiodine is also used to treat certain euthyroid cardiac diseases, such as angina pectoris, resistant to most medical forms of therapy, and some cases of chronic passive congestion. Here the attempt is to drive the patient into the hypothyroid state, or even myxedema, so the dose is larger than in the treatment of hypothyroidism. Initial doses are somewhere between 15 and 30 millicuries, administered orally, and after a period of four to six weeks it may require an additional dose of I^{131} in order to further depress the function of the thyroid gland. The rationale of this treatment is to lessen the work load of the heart, by decreasing the thyroid function and hence decreasing the oxygen requirements of the tissue.

V. Treatment of Polycythemia Rubra Vera

Contraindications: 1) Pronounced symptomatic hypervolemia should be treated by venesection first

Dose: 1) 2-4 mc. P^{32} I. V.—repeat in 3-4 months as necessary
2) 6-8 mc P^{32} I. V.—attempt at single dose therapy

Complications of Therapy: 1) Bone Marrow Depression
2) Leukemia (?)

In cases of polycythemia vera with an extremely large blood volume that produces severe symptoms, it probably would be best to treat first by venesection, and then administer P^{32} . The use of venesection in the treatment of polycythemia vera is condemned by some because this procedure actually stimulates the bone marrow to a greater production of red blood cells. However, since P^{32} has a half-life of 14 days, a relatively long period is required in order to deliver a radiation dose adequate to suppress the bone marrow. Consequently, if P^{32} alone is used the patient will not be offered relief from the hypervolemia for several weeks. In patients with symptoms of thromboses it is extremely difficult to determine whether or not one should do a venesection or treat with P^{32} as his primary form of therapy. The dose of P^{32} most often used in treating this disease totals about 7 or 8 millicuries administered intravenously, depending upon the size of the patient. Many physicians prefer to give a smaller dose of 2 to 4 millicuries intravenously, and then await an observation period of three or four months before determining the size of the second dose. However, some physicians like to use one dose of approximately 7 millicuries. If the patients have been overtreated, bone marrow depression may result. The occurrence of leukemia in patients treated with P^{32} is ac-

cepted to be no higher than in polycythemia patients who are untreated or who were treated by another agent.

VI. Treatment of Chronic Leukemia

Contraindications: 1) Imminent "blastic" crisis

Dose: 1) 3-4 mc. P^{32} I. V., repeat in 1-2 months as necessary
2) 1 mc. P^{32} I. V., weekly until peripheral leucocyte count drops

Complications of Therapy: 1) Bone marrow depression
2) Acute phase (?)

P^{32} is also used on occasion to treat chronic leukemia. Today, this disease is most readily treated by chemotherapeutic drugs. However, there is some belief that the use of myelran or chlorambucil may not result in the life span prolongation as those cases treated with P^{32} . If the chronic leukemia appears to be progressing to a blastic phase, P^{32} should not be considered in the therapy. The dose in these diseases are the same whether the leukemia is of the granulocytic or lymphocytic type.

The use of chemotherapy, as has been mentioned, is very popular in most institutions. It must be admitted that it is much easier to use a chemotherapeutic agent than to use radioisotopes. However, in those institutions which have a well equipped and well staffed radioisotope laboratory, it would appear that consideration should be given to using radiophosphorus in treating the chronic leukemic. There are no adequate statistics available, relative to the response and survival of this disease when treated by the chemotherapeutic agents, to prove these agents have greater merit than P^{32} .

The dose may be approached in two or three ways: either by fractionation or by administering a relatively large single dose. By the fractionation method, three to four

millicuries are administered initially and this usually requires an additive dose within the period ranging from a few weeks to about one or two months. Here again, as in the treatment of polycythemia, the patient is evaluated after a period of weeks to a few months, and if the original dose did not appear to be adequate, additional intravenous P^{32} is administered. The alternate method is to administer one millicurie intravenously at weekly intervals until peripheral leucocyte falls to approximately 30,000. At this stage, the radioisotope therapy is discontinued. From the literature, there appears to be a little difference in the response to these two forms of radioisotope therapy. The complications of treating chronic leukemia with P^{32} is the possible event of bone marrow depression, which occurs occasionally, and the development of the acute blastic phases of the disease. It cannot be said that the latter instance is a true complication because in most cases the patient would eventually develop a blastic phase whether or not he were under P^{32} therapy.

VII. Treatment of Skeletal Metastases

- Contraindications:
- 1) Localized metastases —are best treated by external beam therapy
 - 2) Generalized osteoblastic metastases from CA of breast
 - 3) Extensive soft tissue metastases
 - 4) Marked bone marrow depression

- Dose:
- 1) 1 mc. P^{32} I. V.—daily combined with I. M. androgenic hormone

- Complications of Therapy:
- 1) Bone marrow depression

The last routine use of P^{32} is in the treatment of bone metastases from carcinoma of

the breast or prostate. This is a combined therapy procedure utilizing the androgenic hormone. There are certain instances in which this condition is not best approached by P^{32} and hormone therapy. Most patients who are considered for this form of therapy have undergone all possible forms of treatment, including localized x-ray therapy, hormone therapy, castration, and usually forms of chemotherapy. From my experience, the patients with generalized osteoblastic metastases from carcinoma of the breast did not respond well to this form of therapy. In addition, if they have extensive soft tissue metastases as well as generalized skeletal metastases, the response is not good. If they exhibit marked bone marrow depression from previous forms of therapy, they should not be tried on this type of treatment. The daily dose that is usually used is one millicurie intravenously combined with intramuscular male sex hormones. This combined radioisotope and hormone therapy is continued for a period varying from six to twelve days depending upon the extent of the metastases. The more generalized the metastases, the lower the dose of P^{32} . Female sex hormone may be substituted for male sex hormone in certain cases of cancer of the prostate.

It should be stated that many practitioners have had cases developing very severe, and indeed, fatal bone marrow depression from this form of therapy. These poor results are usually caused by too large a dose of P^{32} . The greater the degree of metastatic spread to the bone the greater the percentage of the dose of P^{32} will be deposited in the bone and the greater will be the bone marrow depression. As we stated above, in wide-spread bony metastases, a lower dose is administered. Some practitioners mistakenly administer a larger dose when the metastatic spread is more severe, and this always results in marked bone marrow depression.

The next accepted use of radioisotopes involves the treatment of malignant effusions as a complication of generalized carcinoma of the serosal cavities.

VIII. Treatment of Malignant Effusions

- Contraindications:
- 1) Marked Bone Marrow Depression
 - 2) Loculations in serosal space
 - 3) Terminal state of patient

Dose: (in mc.)	Au ¹⁹⁸	CrP ³² 04	Y ⁹⁰ Cl 3
Chest	75-100	5-15	10-25
Abdomen	75-150	10-20	20-40
Pericardial Sac	25-50	5-10	10-20

- Complications:
- 1) Bone Marrow Depression
 - 2) Adhesive serositis

Here the radioisotope is used as a colloidal compound. There are three routinely used isotopic compounds; radioactive gold (Au¹⁹⁸), chromic phosphate where the radioisotope is radiophosphorus (P³²) and radioyttrium (Y⁹⁰) chloride. In the latter instance, the compound is actually an inorganic compound but once it is injected into the serosal cavities of the body it mixes with the body fluids and forms a colloid. This treatment should not be used if the patient is in a terminal state, nor should it be used if there is marked bone marrow depression. If it is known that there are loculations in the serosal space, whether they be in the chest or in the abdominal cavities, the compound should probably not be used. The dosages are illustrated in table VIII. There is a possibility that if the patient has been on previous chemotherapy, or is in a cachetic state, a bone marrow depression may develop. In addition to this, if the patient lives long enough, he will probably develop an adhesive serositis. Patients with fluid formation due to widespread malignancy should be considered incurable and the treatment is of a palliative nature. They do not ordinarily live long enough to develop peritoneal adhesions, or adhesive pleuritis if their pleural effusion is treated. Occasionally, however, a patient lives for several months to one or two years, and in such

instances the adhesive serositis may form and may be quite disabling.

Radioiodine has been used for many years in a treatment of carcinoma of the thyroid. The following table will demonstrate some of our feelings on this subject.

IX. Treatment of Carcinoma of the Thyroid

- Contraindications:
- 1) Localized lesion that can be removed by surgery
 - 2) Undifferentiated carcinoma, or non-functioning adenocarcinoma.
 - 3) Marked bone marrow depression.

- Dose:
- 1) For ablation—50 mc. I¹³¹ orally (best performed by surgery)
 - 2) 100 mc. I¹³¹ orally—every three months until: Tumor disappears or bone marrow markedly depressed

- Complications of Therapy:
- 1) Bone Marrow Depression
 - 2) Acute Leukemia
 - 3) Local reaction

It is believed that the primary carcinoma of the thyroid is a surgical problem and not a problem for radioisotope therapy. In addition, any metastases from carcinoma of the thyroid that are surgically correctable, should be treated by surgery and not by any form of radiation therapy. If the cancer is an undifferentiated carcinoma or a non-functioning adenocarcinoma of the thyroid, it is unlikely that radioiodine will offer any relief. If the distant metastases are of a pathological type that may have functioning thyroid tissue, I¹³¹ therapy may be used. Before treatment, it should be ascertained that all the normal thyroid tissue has been removed from the neck. This is best done

surgically, but it may be performed by the administration of approximately 50 millicuries of I^{131} .

The reason it is necessary to remove all of the normal thyroid tissue prior to an attempt at evaluating the uptake of the malignant tissue is quite simple. Normal thyroid tissue will practically always remove the circulating I^{131} from the blood stream in much greater amounts than will metastatic tissue, even though the cancer tissue may be functioning. It is extremely rare to find significant localization of I^{131} in the malignant tissue of carcinoma of the thyroid if any normal thyroid is present.

It might be pointed out that while this ablation can be performed by giving doses of I^{131} , such a procedure would require three months before adequate destruction of the thyroid tissue would occur. The best method of ablation, of course, is by surgery.

After such ablation, either by surgery or by I^{131} medication, the distant metastases should then be studied by means of administering a large tracer dose and by scanning the sites of the metastases.

If it is apparent that these metastases have an uptake of I^{131} that is significant, i.e., at least 20 percent greater uptake than demonstrated at a similar contralateral site of the body, then one should consider the use of radioiodine therapy. The dose administered is about 100 millicuries orally, and this may be repeated at intervals of approximately three months. At the three or four month interval, x-ray examinations, scanning studies, as well as uptake studies over the metastatic sites are performed to determine whether or not the tumor is still localizing I^{131} . These therapeutic doses of 100 millicuries are administered at approximately three month intervals until the tumor disappears, or until the bone marrow is markedly depressed.

Such treatment often results in marked bone marrow depression. Localized irritation of the overlying skin and pharyngeal mucous membranes may also occur. There have been several instances of acute leukemia

developing following the administration of I^{131} in the treatment of the thyroid. In this instance, it appears probably that the incidence of acute leukemia may be higher than in the cross section of the untreated population who have cancer of the thyroid.

X. Results

1. Hyperthyroidism	90-95% Remission
2. Euthyroid Cardiac Disease	60% Good Response
3. Polycythemia Vera	75-80% Good Remission
4. Chronic Leukemia	60-80% Good Remission
5. Skeletal Metastasis	60-70% Subjective Relief from Pain 30-40% Bone Healing
6. Malignant Effusions	60-70% Subjective Relief 30% Cessation of Fluid Formation
7. Carcinoma of the Thyroid	10-20% Disappearance of Metastases 40-50% Subjective Improvement

Results in the routine uses of radioisotope therapy and nuclear medicine are fairly good when compared with results of other forms of therapy.

The general consensus is that 90 to 95 percent of all patients with hyperthyroidism treated by I^{131} obtain good remission.

Results in treating euthyroid cardiac conditions vary somewhat with the investigator and clinic reporting such treatment. The average should probably be 60 percent with good results. The good results in treating intractable angina pectoris are somewhat higher than the treatment of chronic passive congestion.

Seventy-five to eighty percent of the patients treated for polycythemia vera obtain a good remission. While these patients cannot be cured, it has been proven that their

life span is prolonged very appreciably by this form of therapy.

Again, 60 to 80 percent of the patients with chronic leukemia obtain a good remission. While none of these patients are cured, the life span has been extended, as long if not longer, than with the popular new chemotherapeutic drugs.

In patients with skeletal metastases, the attempt at this form of therapy is purely palliative. Sixty to seventy percent of these patients demonstrate subjective relief from pain. In addition, approximately one-third of them demonstrate healing of their bone lesions on x-ray films.

The treatment of malignant effusions, which again is a palliative attempt, results in about 60 or 70 percent of the patients being offered subjective relief from pain, and the discomfort of repeated paracentesis. About one-third of these patients do not form additional fluid following the therapy attempt.

Carcinoma of the thyroid is a somewhat different problem in that a fewer percentage of patients treated with I^{131} respond. Whether or not patients can be cured of metastases from this cancer has not been determined, because the natural course of carcinoma of the thyroid is quite long. Probably 40 to 50 percent of the patients so treated notice subjective improvement from their complaints which relate to the distant metastases. The metastases are destroyed by I^{131} therapy in about ten percent of treated cases.

XI. Therapy Being Evaluated

Chronic Pulmonary Emphysema	I^{131}
Paralysis Agitans	I^{131}
Chondrosarcoma	S^{35}
Lymphoma of the Skin	S^{35}
Malignant Tumors of Liver	
Rose-Bengal	I^{131}
Breast Cancer	P^{32}
Primary Bone Tumors	Ga^*

The treatment of chronic pulmonary emphysema and paralysis agitans with I^{131} are

examples of incompletely evaluated approaches. The rationale behind the treatment of chronic pulmonary emphysema is the attempt to lower the requirements of oxygen in the body by depressing the thyroid function. The results of each of these conditions treated with I^{131} are problematical.

It has been discovered fairly recently that large amounts of sulfur are deposited in growing cartilage. This work has led to the use of S^{35} in the treatment of chondrosarcoma. S^{35} is a weak beta emitter and the dosage required in this treatment has been very high, in fact, one curie doses have been administered.

I have used the same isotope, S^{35} , in the treatment of lymphoma of skin, particularly mycosis fungoides. In a few cases we have noted some very good results in this form of therapy. One patient in particular had generalized skin lymphoma of this type for many years and noticed a marked improvement over-night after the administration of 30 millicuries, orally, of S^{35} .

The use of Rose-Bengal tagged with I^{131} has been reported to be of help in the treatment of malignant tumors of the liver. On the basis of the radiation dosimetry, the dose delivered to the liver in this type of treatment must be relatively low, probably too low to be effective.

The use of P^{32} in the treatment of breast cancer has also been reported in the literatures. Also, Ga^{72} was tested as a treatment of primary bone tumors, Ga^{72} has an extremely short half-life of a little over twelve hours and a relatively high amount of stable gallium does not fit into our criteria of a good radioisotope for therapy. This isotope required such large doses for initial administration that the patient many times developed acute radiation illness, and also because of the large amount of carrier gallium present, many actually developed toxicity symptoms from this stable element.

XII. Possible Future Applications

Primary Bone Tumors	Sr ⁸⁸ : Ca ⁴⁵
Cancer of the Kidney	Neohydrin - Hg ²⁰³
Cancer of the Pancreas	Amino-Acid
Cancer of the Prostate	Zn ⁶⁵ compound

We know that strontium and calcium deposit in bones. Perhaps it would be possible to find a radioisotope of one of these compounds that could be used in the treatment of bone tumors, either primary or metastatic. However, the production problem and the physical characteristics of the available isotopes of strontium and calcium eliminate their use at this time.

A newly labeled compound, Hg²⁰³ Neohydrin, localizes in the kidney and in brain tumors. The fact that this compound is deposited with a relatively long biological half-life in the kidney, makes one feel that perhaps it might be used in treating kidney tumors. Here again, there are the same difficulties as with other labeled compounds, namely that it is unlikely that this compound could be labeled with a high enough activity of Hg²⁰³ not to decompose itself by radiation action.

In the same instance, we could speak of one of the amino acids labeled with a radioactive material for the use in treating carcinoma of the pancreas. There has been recently demonstrated that methionine la-

beled with Se⁷⁵ is used in photoscanning of the pancreas. Since methionine is quite a complex compound, it is unlikely that we could add enough radioselenium to the compound without its decomposition by action of the radiation.

Certain enzymes of the prostate have a high concentration of zinc. Perhaps one could develop a compound with a Zn⁶⁵ label in a high enough activity that it would seek out not only the primary prostatic malignancy, but also metastatic disease from the prostate. The same drawbacks appear here as in other instances where we are attempting to label a complex compound with large amounts of radioactivity.

It can be stated that the accepted uses of radioisotopes have been a great assistance in the practice of medicine. However, the hope is that in the future we may develop newer labeled compounds, or discover isotopes of untested elements, to better treat cancer. One should never become pessimistic, as the field is relatively new and numerous investigators and medical centers are devoting their efforts to develop additional compounds for this form of therapeutic endeavor.

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The Ways of Propaganda

What the pharmaceutical industry has spent defending itself in Washington and other parts of the world the last four years, in terms of manpower and money, is staggering. What started out as differences of opinion between our industry and some government investigating committees has now become the source of distorted international propaganda—not so much anti-drug industry as it is anti-American.—Philip B. Hofmann, Chairman of the Board, Johnson & Johnson, to National Association of Chain Drug Stores, Washington, D.C., October 17, 1963.

The Pregnant Diabetic

Prospects for the successful outcome of pregnancy in the diabetic woman were poor until a few years ago. Now, with the special care program described here by an author with extensive experience, the outlook for these pregnancies is good.

IN 1963 the survival of the pregnant diabetic mother is assured with good diabetic care. It is still true, however, that without a very special program only one out of three diabetic pregnancies will result in a live surviving infant. The increased incidence of complications of diabetic pregnancies without the special program, over that in the general population is as follows:

	Perinatal loss	Previa- ble loss	Toxemia	Poly- Hydramnios
Diabetic pregnancies without the program	45%	20%	50%	100%
Expected in general population	3%	10%	3%	±0%

In searching for the cause and means to prevent this high fetal wastage, we can consider chemical, physical, and functional changes in maternal, placental and fetal structures.

Of maternal chemical factors, the most important is ketoacidosis. If ketoacidosis occurs in the second trimester, fetal mortality is 100%. On the other hand hypogly-

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cemia is not harmful to the fetus, and moderate hyperglycemia in the mother produces no great damage to the fetus.

Physical changes in the mother include the following:

(1) Certain girls who develop diabetes in early childhood are dwarfed and are likely to have uterine hypoplasia. When pregnancy occurs in these girls the uterus enlarges until the 28th week, then there is premature delivery with a dead fetus. This improves with repeated pregnancies.

(2) Structural vascular changes in the mother are of great importance, and show close correlation with fetal loss. When the mother has diabetic retinopathy, without the special protective program fetal loss is 68%. When calcification in pelvic vessels can be demonstrated, fetal loss is 87%. Diabetic nephropathy in the mother usually leads to rapid renal failure during pregnancy and inevitable loss of the fetus.

Functional vascular changes in the mother can be most readily observed in the bulbar conjunctivae. In non-diabetic pregnancy arteriolar constriction occurs in the third trimester. In diabetes of short duration venular dilatation can be observed, and in the long-standing diabetic, arteriolar constriction. The end result is micro-thrombi and anoxia. It is likely that similar changes occur in the uterus and play an important part in the high fetal loss.

Physical changes in the placenta are of great importance. In diabetes of short duration the placenta is usually large, whereas in the long-standing diabetic the placenta may be minute. In either case the placenta shows microaneurysms, endarteritis, and deposition of mucopolysaccharides in the vascular basement membrane. We infer that these altered placental vessels may show the same abnormal vasomotor responses that we see in the bulbar conjunctivae. The placen-

tal vessels appear to be very sensitive to changes in pH.

The most important chemical change in the placenta, in our opinion, is the abnormal production of hormones. Ninety-five per cent of our pregnant diabetics show a hormonal imbalance. Two characteristic patterns occur. At the time chorionic gonadotropin should be low, it is elevated. In certain diabetic patients estrogen and progesterone are normally elevated early in pregnancy, but fall at too early a period. In others, the estrogen and progesterone levels are low throughout the pregnancy. These abnormalities are correlated in our experience with the high fetal mortality and abnormal obstetrical course. Our protective program is directed towards correction of these hormonal abnormalities.

Other chemical changes in the placenta include alkaline and acid phosphatase, and excessive glycogen deposition. The latter may be in part responsible for the edema of the placenta that is often seen.

The most important functional change in the placenta is overproduction of amniotic fluid. Instead of the normal 750 cc, the pregnant diabetic not on a diuretic program may produce 7000 to 10,000 cc. This poses a tremendous threat to the pregnancy by causing early rupture of membranes before fetal survival is possible.

The most striking chemical change in the infant is hypoglycemia. This is consistent with the pancreatic islet cell hyperplasia and the increased insulin-like activity after a glucose load found in the infants of diabetic mothers. Blood sugar levels of 20 mg% are not uncommon, but apparently this hypoglycemia does little harm. It is not thought to be responsible for the mortality or morbidity of the neonatal period.

Hyperbilirubinemia is very common in the infant of the diabetic mother. It is probably caused by excessive hematopoiesis and red cell destruction.

The anatomical changes in the fetus together make up what has been called "diabetic embryopathy". Well known is the

large size of these infants, due to a combination of obesity and edema. The obesity may be related to excessive insulin production. The edema is intracellular, and is thought related to excessive intracellular glycogen deposition. The gonads show a tendency to the occurrence of corpora hemorrhagica in the ovaries, and Leydig cell hyperplasia in the testes, perhaps resulting from the high levels of placental gonadotropins. The incidence of congenital anomalies is greatly increased, and this accounts for many fetal deaths. The most frequent cause of neonatal death however is the presence of pulmonary hyaline membrane, leading to anoxia, and predisposing to respiratory infection. The protein of the hyaline membrane has been identified as fibrin, and an intravascular origin is suspected.

Treatment

Three types of treatment program have been followed at the Joslin Clinic:

(1) "*Non-intervention*": Excellent diabetic management and excellent obstetrical management, but these handled independently, and no interference with natural delivery. With this perinatal loss after the 28th week has been 48%.

(2) *Early timed delivery*: To prevent intrauterine deaths about the 36th week. With this perinatal loss is 30%.

(3) *Treatment with female sex hormones*: Mortality after 28 weeks has been reduced to 13%.

In evaluating the results of any type of treatment program, the type of diabetic patients being treated must be carefully considered. To help clarify these differences, the following classification of diabetic patients has been developed:

- Class A: Chemical diabetes only.
- Class B: Adult onset diabetes without vascular lesions.
- Class C: Teenage onset diabetes without vascular lesions.
- Class D: Onset before age 10, or duration more than 20 years, so that vas-

cular lesions present, such as retinopathy or calcified leg vessels alone.

Class E: Pelvic vascular calcification.

Class F: Diabetic nephropathy.

Class I: Malignant proliferative retinopathy

With our earlier "non-protective" treatment program, fetal survival was 100% in Class A, but fell to two out of three in Class B, and one out of three by Class D. Patients could not be reported in Class F because of progression of their nephropathy.

Since 1936 most of our patients have been treated with some form of sex hormone therapy. The following goals for the treatment program have been established.

- (1) Maternal survival for the duration of pregnancy plus 20 years.
- (2) Increased fetal salvage.
- (3) Prevention of increase in vascular lesions.
- (4) Prevention of diabetes in the offspring.

The methods which we have used are the following:

(1) Very careful management of the diabetes to prevent intrauterine death associated with diabetic coma.

(2) The diet is high in carbohydrate (about 200 grams), high in protein (about 100 grams), with enough fat to complete the caloric requirement of 30 calories per kilogram ideal weight for height and age. Every effort is made to prevent weight gain of more than 12 pounds during pregnancy.

(3) The insulin management is difficult because pregnancy intensifies the diabetes, and also the renal threshold for glucose and acetone fall. Most patients receive a mixture of rapid (crystalline) and intermediate acting (NPH or lente) insulin, and by the third trimester an extra dose of intermediate acting insulin has been added before the evening meal or at bedtime.

(4) The diuretic part of the program is planned to lessen the degree, not the frequency, of hydramnios, to prevent early

rupture of membranes. Dietary sodium is restricted to 1 gram daily. Thiazides are used continuously. Mercurial diuretics such as Mercuhydrin® are usually added between the 24th and 28th week, 2 cc once or twice weekly, as this is the time when hydramnios usually becomes manifest.

(5) The use of sex hormones is the controversial part of the program. This consists of the administration of estrogen and progesterone in high doses. Currently we are using Deladuthal 2 X®, a combination of estradiol and a progestational agent, 2 cc to 4 cc intramuscularly once a week.

(6) Weekly combined examinations by the internist and the obstetrician are considered the most essential part of the program.

(7) The time of delivery is very important in attempting to prevent intrauterine death. This is influenced by the classification of the patient, thus:

Class A: deliver in 38th week.

Classes B and C: deliver in 37th week.

Class D: deliver in 36th week.

Classes E, F, and R: evaluate at 34th week; none goes beyond the 35th week.

Indications for immediate delivery are toxemia if the fetus is viable, loss of fetal activity in the presence of good heart tones, a sudden significant drop in insulin requirement suggesting placental failure, or a sudden significant worsening of retinopathy, especially the appearance of cotton wool exudates.

(8) The type of delivery is for the obstetrician to decide. Although every effort is made to induce a pelvic delivery, 75% of our patients have Caesarian section. The patients are delivered without medication or sedation, under either epidural or spinal anesthesia. Insulin is given after rather than before delivery whenever possible, and on the day after delivery the pre-pregnancy dose of insulin is resumed. During labor or section 5% dextrose in water is given continuously.

(9) The care of the infant cannot be

overemphasized. The pediatrician is in attendance at the time of delivery to take care of respiratory distress, to institute treatment for hyperbilirubinemia or infection, and to examine the infant for congenital anomalies. The infant is given an Apgar rating, which gives a better indication of the prognosis than other classifications. The child is aspirated and then transferred to the premature nursery. Oxygen is given if necessary, but at the lowest possible level. If respiratory distress develops, we check the serum pH, pO_2 , pCO_2 and CO_2 combining power. A combination of respiratory acidosis and metabolic acidosis can develop in these infants. If the CO_2 combining power falls to 20 milliequivalents, the child is given 50 milliequivalents of sodium bicarbonate in 5% dextrose solution. Penicillin and streptomycin are given for respiratory infection. The infant is fed at 12 hours of age, to prevent dehydration. If the serum bilirubin rises to 20 mg% or above and stays high, an exchange transfusion is done.

(10) Follow-up of these infants throughout childhood is important.

Three situations may be revealed:

1. By age 20, 9% have clinical diabetes and 14% chemical diabetes. The total of 23% is identical with the incidence of diabetes in the offspring of young diabetic fathers.

2. Congenital anomalies, especially of the urinary tract, may become evident much later than in the neonatal period.

3. Between the ages of six and 16, gigantism tends to occur. These children are tall, with a large skeleton, have tremendous muscular development, and are obese. The excessive growth appears to be self-limited. One wonders about its possible relationship to over-production of insulin from the hyperplastic pancreatic islets. An attempt should be made to control the obesity with dietary restriction.

Results

How well did we accomplish the goals we had set? Maternal survival was 99.8%. 90% of the women who could have survived the 20 year period have done so. Total fetal viable salvage was 87%. These figures are identical with those for infants of the general population if at the same gestational age.

What happens in relation to the complications of diabetes? Nephropathy and the renal type of retinopathy which develops during pregnancy usually revert after delivery. Previously existing nephropathy did not deteriorate, although there was no increase in renal function during the pregnancy, as occurs normally. Malignant retinopathy was unchanged unless there were preretinal or vitreous hemorrhages in the first trimester, in which case the prognosis for vision was poor.

As to the prevention of diabetes in the offspring, we have no information. Some groups are investigating the possibility of preventing clinical diabetes in known pre-diabetes with the use of sulfonylurea drugs. The results of such attempts will not be known for some time.

What has been the effect of the pregnancy in the diabetic mother? In Class A patients the diabetes did not become more overt. In Class B patients there was some increase in insulin needs. The Class C patients showed some tendency to improvement in the diabetes. In Class D patients there was a slight increase in the vascular lesions. Class F and R patients were not affected by the pregnancy.

In the overall consideration of our program, especially in connection with the most important aspect of vascular disease, we consider good control of the diabetes the preventive part of the program; early timing of the delivery, corrective; and the use of diuretics and of the sex hormones, protective.

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Insulin Resistance

Insulin resistance may develop in any diabetic being treated with insulin. Primary resistance, the type discussed here, is usually caused by the development of antibodies against exogenous insulin. The condition can be successfully treated.

RESISTANCE to exogenous insulin in diabetes mellitus has been arbitrarily defined as existing when the daily insulin requirement exceeds two hundred units.^{1,2} However some degree of insulin resistance occurs in any individual requiring over thirty to forty units daily, since this amount provides adequate replacement in the depancreatized human subject.³ Many factors can increase the requirement for insulin in human diabetics, and hence can be said to produce insulin resistance. For purposes of classification we have divided these into two groups and we have called the insulin resistance primary or secondary (Table I). Primary insulin resistance can be defined as an increase in insulin requirement unrelated to any of the factors which are known to aggravate diabetes. Primary insulin resistance is the subject of this presentation.

Dr. Gardner is a trainee in Diabetes and Endocrinology, and Dr. Johnson a former student trainee, under U.S. Public Health Service Training Grant 2A-5196 of the Institute of Arthritis and Metabolic Diseases, National Institute of Health.

Presented at the annual meeting of the Virginia Diabetes Association in conjunction with The Virginia Academy of General Practice, Richmond, May 10, 1963.

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Many of the factors which can aggravate diabetes and cause secondary insulin resistance are listed in Table I. It is of interest that Field has demonstrated circulating insulin antagonists in the plasma of patients with

TABLE I
INSULIN RESISTANCE

- I. Primary
- II. Secondary
 - Ketoacidosis
 - Infection
 - Stress—physical or emotional
 - Obesity
 - Puberty
 - Pregnancy
 - Endocrine disease
 - Acromegaly
 - Cushing's Disease
 - Thyrotoxicosis
 - Pheochromocytoma

ketoacidosis⁴ or with infection.⁵ This substance behaves as a protein and migrates as an alpha-1-globulin on electrophoresis. It disappears when the ketoacidosis or infection has been controlled. Vallance-Owen has demonstrated an insulin antagonist associated with serum albumin in diabetics⁶ and in the relatives of diabetics,⁷ and present in lesser degree in normal people.⁷ The relationship of these various antagonists, and their possible relationship to insulin binding by serum protein as described by Antoniades⁸—is not clear at the present time. There is evidence that these insulin antagonists require the presence of pituitary growth hormone and of cortisol for their production, although these hormones themselves are not the antagonists.⁹ It is possible that this type of insulin antagonism or binding may play a role in the genesis of diabetes mellitus but this has not been fully established.

Secondary insulin resistance occurs with

stress, both physical and emotional, with puberty, and in the latter part of pregnancy.¹⁰ Obesity is usually associated with an increased insulin requirement,⁶ perhaps caused by the demand for and sequestration of large amounts of insulin by metabolically active adipose tissue. Various endocrine disorders such as acromegaly, Cushing's syndrome, thyrotoxicosis, and pheochromocytoma may be associated with the secondary insulin resistance caused by the physiologic antagonism to insulin of the hormone present in excess.

Primary insulin resistance is distinguished by the absence of any of the above factors known to aggravate diabetes. It is chronic in the sense that it is not associated with any acute precipitating condition and may last for months or years although remissions are common and ultimately the resistance may disappear.

In most cases primary or chronic insulin resistance can be attributed to the development by the patient of gamma globulin antibodies to exogenous insulin.^{1,10,11,12} It has been shown that all patients receiving exogenous insulin, usually a beef-hog insulin mixture, develop anti-insulin antibodies within six to twelve weeks.¹² The antibodies are primarily against the beef component as will be discussed below. In the average patient the antibody titer is enough to cause a moderate increase in the dose of exogenous insulin required but this is given without undue concern. In certain patients, however, the antibody may neutralize ninety percent or more of the administered insulin and daily doses of several hundred to several thousand units may be required. By definition only patients requiring two hundred units or more of insulin daily are said to be "insulin resistant", but it is evident that the development of antibodies against exogenous insulin may play a part in increasing the daily requirement of any patient receiving exogenous insulin.

In some cases of apparently primary insulin resistance anti-insulin antibodies can-

not be demonstrated and high levels of active plasma insulin seem to be physiologically ineffective.¹³ Tissue unresponsiveness to insulin has been postulated to explain such cases. It is also theoretically possible that primary insulin resistance could result from excessively larger amounts of the antagonists or binding substances found in association with serum albumin or the alpha or beta globulins.

Primary insulin resistance may occur in either sex and at any age.¹⁴ It may occur in the juvenile onset, ketosis prone, insulin dependent diabetic as well as in the maturity onset, stable patient. It is thought by some that it occurs more commonly where insulin has been given intermittently.^{1,15} The onset is unpredictable and it may terminate in a few weeks or persist for two to three years with periods of remission and exacerbation.¹⁴ The latter makes evaluation of any therapeutic program difficult. Susceptibility to ketoacidosis is about the same as before the onset of resistance.¹⁴ Control of the diabetes is usually possible if enough insulin is given, and prognosis is good for ultimate subsidence of the resistance.¹⁴

In treatment the first essential is to give large enough doses of ordinary commercial insulin. In most cases there is a level which will ultimately overcome the resistance, with subsequent improvement in insulin sensitivity.¹⁴ Success may depend on willingness to administer very large doses of insulin and the realization that subsequent increases in dosage must be made by geometric progression.

With our knowledge of insulin neutralizing antibodies a rational treatment can be based on measures which influence either antibody synthesis or the binding of insulin. Adrenal cortical steroids have been used successfully^{16,17} although the mechanism of their beneficial effect is uncertain. Their action may be mediated through an effect either on inhibition of antibody synthesis or by influencing the rate of dissociation of the antigen-antibody complex.

Less antigenic types of insulin than commercial beef-pork insulin have been used successfully. Commercial insulin is a mixture of beef and pork insulin, the beef moiety comprising about 70% of the mixture. The major antigenic property of this mixture can be attributed to beef insulin, whose molecular structure differs considerably from human insulin.^{18,19}

The use of pure pork insulin in several reported cases²⁰⁻²⁴ has been associated with a marked reduction in daily insulin requirement and control of the resistance. The molecular similarity of pork and human insulin probably accounts for the weaker antigenic properties of pork insulin.^{18,19}

The human insulin molecule consists of two long amino acid chains designated the A and B chains which are joined by disulfide

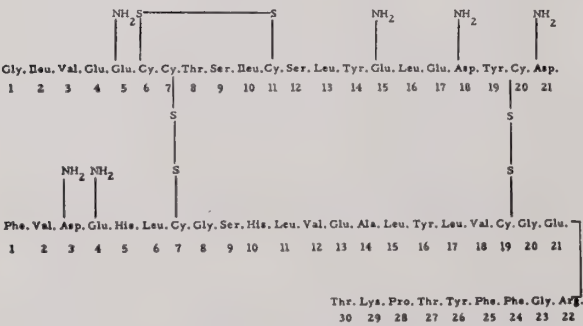


Fig. 1: Human insulin molecule.

bridges (Figure 1).¹⁸ Pork insulin differs only by the terminal amino acid on the long B chain. Other more antigenic insulins such as beef insulin differ by additional changes in the amino acid sequence at the 8, 9, and 10 positions of the shorter A chain.

Although not generally useful the sulfonylurea drugs have been of value in a few selected cases of mild insulin resistance. These patients have usually been the stable maturity onset diabetics whose insulin dose has gradually increased over a period of one to two years. Varying the insulin dose has usually made little or no difference in the ultimate control of their diabetes. Since antibodies against commercial insulin of animal origin do not significantly neutralize endogenous insulin, stimulation of pancre-

atic insulin by these agents may bring about secretion of enough non-antigenic endogenous insulin to control the diabetes.

Case Reports

Case I illustrates the clinical course of a severely insulin resistant diabetic successfully managed with adrenal cortical steroids and pork insulin. Case II illustrates the management of mild insulin resistance with sulfonylurea drugs.

Case I. (see Figures 2A and 2B)

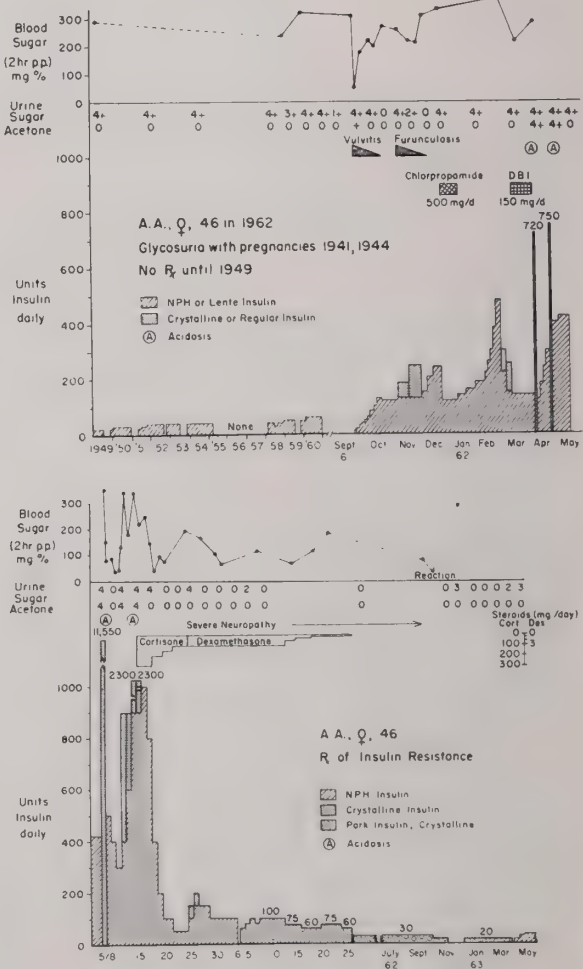


Fig. 2A and Fig. 2B: A severely insulin resistant 46-year-old Negro female whose resistance was ultimately managed with adrenal cortical steroids and pure pork insulin after initial attempts with large doses of ordinary commercial insulin failed.

AA., a 46-year-old Negro female, was first discovered to have diabetes in 1941

during her first pregnancy. Treatment was not begun until 1949. During the next twelve years she received protamine zinc or NPH insulin, twenty-five to sixty units daily, and there were periods during which she omitted insulin altogether. Progressive insulin resistance began in 1961 following two episodes of acute infection, her diabetes not being controlled with more than two hundred units of insulin daily. Subsequent attempts to overcome her resistance by adding chlorpropamide and later DBI were unsuccessful. After this she was treated on four occasions for ketoacidosis, requiring 11,550 units of crystalline insulin during a severe episode in May, 1962. Subsequently she received 800 to 1000 units daily without adequate control. Cortisone 300 mgm daily was begun and was followed by a dramatic reduction in insulin requirement to daily levels of 100 to 150 units. Steroids were then tapered while pure pork insulin (crystalline) was begun. A further decrease in daily insulin requirement occurred. Her diabetes was finally controlled with twenty units of pork insulin daily.

Case II. (see Figure 3)

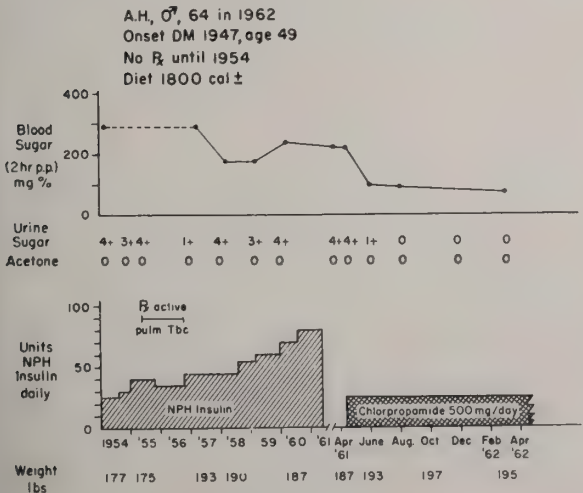


Fig. 3. A 64-year-old Negro male in whom chlorpropamide was used successfully in the treatment of mild insulin resistance.

A. H. was a 64-year-old Negro male with diabetes of the stable maturity onset type. During the first eight years of treatment his daily insulin requirement gradually rose

from twenty-five to eighty units but he was never adequately controlled. In 1961 he omitted insulin entirely for three weeks. Heavy glycosuria occurred but no ketosis. Chlorpropamide 500 mgm. daily was begun with subsequent control of his glycosuria and hyperglycemia. Ordinarily when such a transfer to an oral agent is attempted, the patient should remain on insulin initially along with the oral agent. If glycosuria clears, the insulin dose can be subsequently reduced and finally omitted entirely if control is accomplished with the oral agent.

Summary

1. Insulin resistance has been discussed and a classification of its causes has been presented. "Primary insulin resistance" refers to patients requiring over two hundred units daily in the absence of any of the factors known to aggravate diabetes. Insulin resistance is called secondary when it is associated with such factors.
2. Most cases of primary insulin resistance appear to result from the development by the patient of antibodies against exogenous insulin. A few cases cannot be explained by this mechanism.
3. The treatment of primary insulin resistance is discussed and two illustrative cases are presented.

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Dangers of FDA Advertising Controls

If one stops to think about it, the effect of government-muzzled (drug) advertising is one that curtails not only advertising, but also independent text which it monetarily supports. In other words, it tends to abolish freedom of the press. We begin to wonder if this had been one of the diabolical aims of the Fedicare faction. That is, not so much to protect people from poisonous potions as to strip power of the American medical professions; not so much to bless people as to boss them.—Editorial in *Northern Virginia Medical Bulletin*, September, 1963.

Mechanisms, Uses and Complications of Oral Hypoglycemic Agents

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The oral hypoglycemic agents have a firmly established place in the treatment of diabetes.

SINCE THE PIONEER WORK of Loubatieres (1946), extensive research is in agreement that increased insulin release from pancreatic beta cells is the primary mode of action of the sulfonylurea drugs; there is also some direct inhibition of hepatic ketogenesis. The recent concepts of Antoniadou et al., regarding bound and free insulin, envision tolbutamide as un-binding insulin from its protein carrier complex, a mode of action so far unproven. There is still no consensus on the mode of action of phenethylbiguanide; originally, increased anaerobic glycolysis was equated with increased glucose uptake, but this concept has been challenged.

Today probably 20-30% of our diabetic population takes oral hypoglycemic drugs, chiefly tolbutamide, paying 21¢ daily for 1.0 gm. of tolbutamide, 13¢ daily for 250 mg. chlorpropamide, or 26¢ daily for 100 mg. of phenethylbiguanide (timed-dispersal).

Phenethylbiguanide has been used most successfully in obese, ketoacidosis-resistant diabetes of the type which also responds to sulfonylurea drugs. As an adjunct to other drugs its value is debatable.

Re-evaluation of tolbutamide and chlor-

propamide after five years has confirmed our earlier expectations. The troublesome incidence of secondary failures is now believed to be as low as 4%, when all contributory factors are ruled out. It is still too early to know whether the incidence of late vascular and neurological complications will be less in patients so treated. These drugs have sometimes been of value in insulin resistance.

The most exciting progress with tolbutamide has been in prophylaxis. Fajans and Conn have followed twenty young people with minimal diabetes for over four years; glucose tolerance became normal in ten patients and improved in seven others. Tolbutamide has also been used as a diagnostic tool by virtue of its ability to stimulate insulin release.

The troublesome complications of oral hypoglycemic drugs tend to occur within the first six months. Tolbutamide toxicity has been exceedingly rare and mild. Chlorpropamide has been occasionally associated with severe hypoglycemia, cholestatic jaundice, and some hematologic changes; phenethylbiguanide causes anorexia and nausea at toxic dose levels and sometimes malaise and persistent ketonuria despite otherwise good control.

Recently there have been several reports of severe acidosis due to accumulation of lactic acid rather than keto-acids; this can occur in diabetics and non-diabetics. In the former group it is perhaps more likely in patients treated with phenethylbiguanide. The diagnosis is suspected when the CO_2 and chloride are both low, without ketosis, and treatment includes oxygen and bicarbonate (sodium lactate is contraindicated).

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Neurological Complications of Diabetes

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The neuropathy associated with diabetes is manifested by a variety of symptoms. The mechanism of its development is obscure.

COMPLICATIONS OF DIABETES have been recognized for one-hundred years.¹ The clinical features of diabetic neuropathy may be discussed under several headings: (a) symmetrical distal polyneuropathy affecting particularly the lower extremities and predominantly sensory in type; (b) proximal asymmetrical motor neuronopathy;² (c) mononeuritis, e.g., ulnar, femoral, peroneal or radial nerve palsies; (d) cranial nerve palsies, single, multiple and recurrent;³ (e) autonomic nervous system involvement; (f) diabetic myelopathy.⁴

Pathologically, analysis of large series stresses the element of impairment of vascular supply to nerves.⁵⁻⁹ The validity of this has recently been challenged.¹⁰

It would appear that under the heading of diabetic neuropathy, one is dealing with a variety of conditions, suggesting more than one etiologic factor. In mononeuritis of sudden onset and gradual recovery, vascular insufficiency is probably predominant. The findings that neuropathy is so often symmetrical is frequently seen in children with diabetes,¹¹ the occurrence of neuropathy before diabetes is clinically manifest,¹² the

occasional exacerbation when diabetes is treated, and the neurological involvement as judged by nerve conduction velocity studies and chronaxie determinations in diabetics who do not manifest clinical neuropathy,^{13,14} all suggest a metabolic lesion, which is an accompaniment and not a complication of diabetes. It is postulated that the hyperglycemia and the neuropathy are related to the underlying disease, but that the neuropathy is not directly dependent on the hyperglycemia but presents one facet of a multifaceted disease.

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New Height-Weight Tables for Young Men and Women

Overweight has been defined as 15 to 30 per cent above average weight, obesity as more than 30 per cent above average weight. Until recently it has been more difficult to define the extreme opposite. Analyses of height-weight data from about 160,000 college students provide tables which include figures for the underweight. Study of the students indicated that weight was relatively stable between 21 and 29 years for men and between ages 17 and 29 for women. The tables for young men and young women are given below:

AVERAGE WEIGHT IN POUNDS FOR HEIGHT AND BOUNDARY WEIGHTS
BETWEEN WEIGHT-FOR-HEIGHT CLASSIFICATIONS*

Young Men							Young Women						
Height (in.)	Under-weight	Slender	Normal	Stocky	Over-weight	Obese	Height (in.)	Under-weight	Slender	Normal	Stocky	Over-weight	Obese
63	111	121	131	141	151	170	58	88	95	103	111	119	134
64	114	124	134	144	155	175	59	90	98	106	114	122	138
65	117	128	138	148	159	179	60	93	101	109	117	125	142
66	120	131	141	152	163	184	61	95	104	112	120	129	146
67	123	134	145	156	167	188	62	98	106	115	124	132	150
68	126	138	149	160	171	193	63	101	109	118	127	136	154
69	130	141	152	164	175	198	64	103	112	122	131	140	158
70	133	145	156	168	180	203	65	106	116	125	134	144	162
71	136	148	160	172	184	209	66	109	119	128	138	148	167
72	140	152	165	177	189	214	67	112	122	132	142	152	172
73	143	156	169	181	194	219	68	115	126	136	146	156	176
74	147	160	173	186	199	225	69	119	129	140	150	160	181
75	151	164	178	191	204	231	70	122	133	143	154	165	186
76	155	168	182	196	209	237	71	125	136	147	158	170	192
77	159	173	187	201	215	243	72	129	140	152	163	174	197
78	163	177	192	206	220	249	73	132	144	156	167	179	202
							74	136	148	160	172	184	208

* Underweight = -15 per cent or less of average weight.
Slender = 7.5 to -15 per cent of average weight.
Normal = average weight computed for men from the equation, $W = 26.7e^{0.0253H}$ and for women, $W = 9.50e^{0.0108H}$
Stocky = +7.5 to +15 per cent of average weight.
Overweight = +15 per cent to +30 per cent of average weight.
Obese = +30 per cent or more of average weight.

(Dorothy W. Sargent, M. S.: "Weight-height relationship of young men and women," *American Journal of Clinical Nutrition*, November, 1963).

Acute Arsenic Poisoning

An Uncommon Cause of the Acute Abdomen

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The symptoms of an acute abdomen combined with the typical x-ray findings should suggest heavy metal poisoning as the diagnosis.

THE DIFFERENTIAL DIAGNOSIS of acute abdomen can be difficult and where clinical and laboratory aids fail to produce a prompt conclusion it becomes necessary to consider more obscure causes in order to ensure immediate and effective treatment.

Acute arsenic poisoning may present the clinical picture of an acute abdominal emergency and if not thought of, valuable time may be lost before the diagnosis is established. Since most of these cases are suicidal or homicidal attempts the history, when one can be obtained, is usually unreliable or misleading.

Arsenic is a heavy metal (atomic weight 74.92) and as such will produce the expected appearance on a roentgenogram of the abdomen. The flat plate of the abdomen is now routine in the investigation of the acute abdomen and the findings of opaque material in the bowel should suggest heavy metal poisoning as well as the more common ingestion of bismuth, a frequently used ingredient of antacid preparations. Such a high index of suspicion may lead to a more rapid correct

conclusion and the early institution of treatment.

Case Report

The patient, a 43-year-old white male, was admitted to DePaul Hospital emergency room on 10/3/60 following a non-collision automobile accident in which his car had struck a tree at relatively high speed.

On admission the patient was semi-comatose and was seen to have sustained lacerations of the chin and lip. He appeared to have severe crampy abdominal pain and considerable rigidity of the abdominal wall with tenderness to palpation throughout. The physical examination was otherwise negative except for hypoactive reflexes. The lungs were clear. The heart tones were of good quality. No alcohol could be detected on his breath. Routine laboratory findings were non-contributory showing a normal urine, hemoglobin 18.2 gms., 9,900 leucocytes with 68% polys, 2% bands, 1% basophiles and 29% lymphocytes. The spinal fluid showed no white cells and a red blood cell count of 12,900 was thought to be the result of a faulty tap. An electrocardiogram showed evidence to suggest myocardial ischemia and/or digitalis effect. The blood pressure on admission was 100/70 with a pulse rate of 100 per min. The pressure fell to 80/60 and was raised temporarily by the administration of levophed.

Roentgenograms of the chest and abdomen were made shortly after the patient reached the hospital. These revealed a distended stomach containing a large amount of opaque material. Similar material was present in the rectum. The rest of the large and small bowel, however, was virtually

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devoid of all gas and feces. (Fig. 1) Shortly after the films were made the patient vomited a metallic appearing substance. Similar material was present in a spontaneous bowel

The case was referred to the medical examiner. The toxicologist reported the blood negative for alcohol but strongly positive for arsenic containing 0.35 mgm. %.

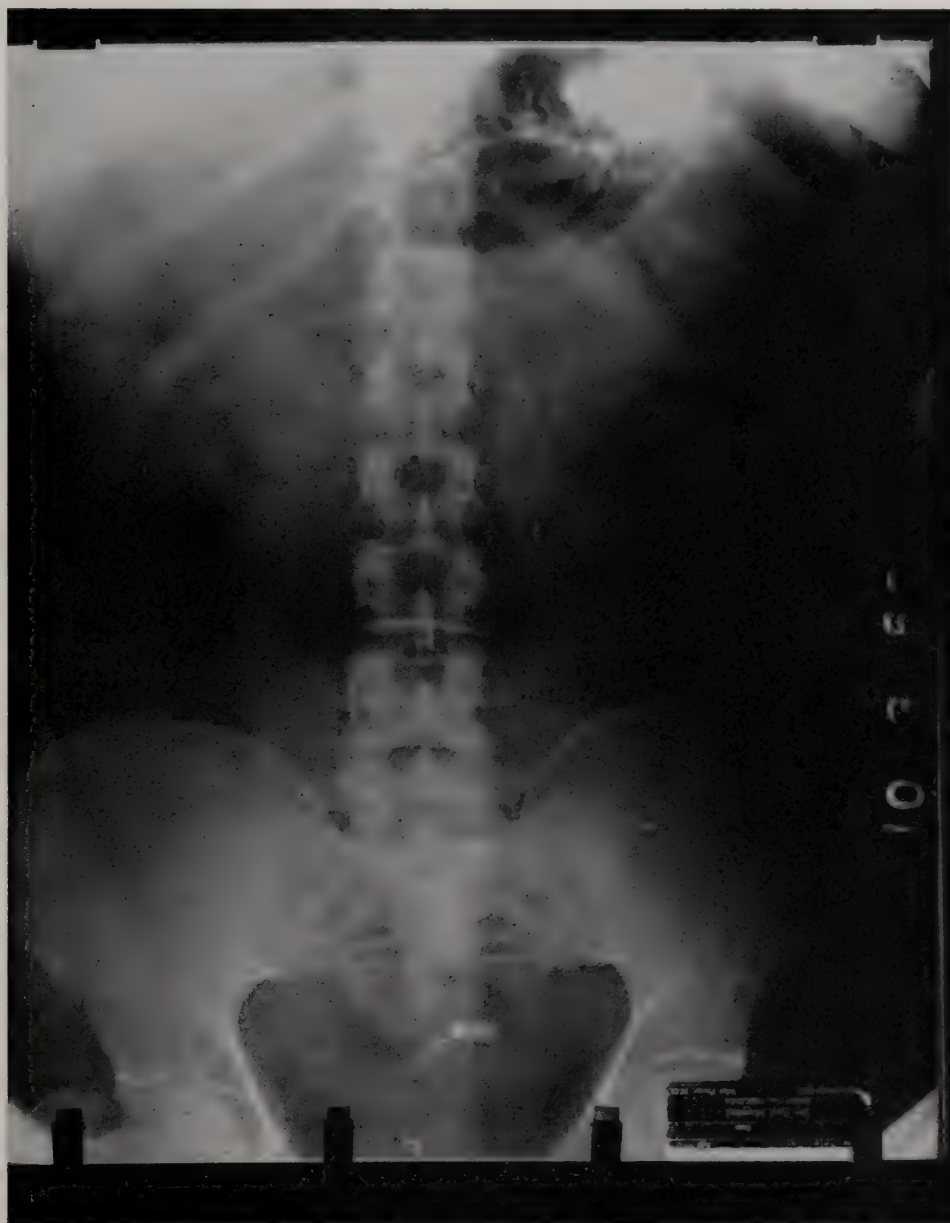


Fig. 1. Plain Film of the Abdomen showing opaque material in the stomach and rectum.

movement. A gastric lavage was performed immediately revealing more of the metallic substance which tested positively for arsenic. The patient failed to respond to supportive measures and expired three and one half hours after admission.

Discussion

The literature contains many references to chronic arsenic poisoning and the findings have been well documented in individual articles and in text books of forensic medicine and pathology. Acute arsenic poisoning,

however, has been given little attention.

In a case reported in the *American Journal of Medicine*¹ as a clinical pathological conference, it is noted that a case of arsenic poisoning was subjected to laparotomy as an acute abdomen and that heavy metal poisoning was not considered even though the abdominal x-ray demonstrated opaque material in the lower bowel. The history of previous gastrointestinal disease and frequently used antacid preparations apparently led to a suspected diagnosis of perforated peptic ulcer. This patient, a 69-year-old-woman, was admitted in a semi-stuporous condition with a history of having been well until seven hours prior to admission when she passed a diarrheal stool followed by nausea and vomiting and severe abdominal pain of an unrelenting nature. She was in shock. The findings at surgery were an empty bowel, superficial ulcerations of the greater curvature of the stomach and several superficial ulcerations of a segment of the jejunum, opened because of bluish discoloration and edema. Arsenic content of the several organs removed at autopsy was well over the accepted upper limits of 0.04 mgm%.

Gousios and Adelson² reported a case of severe crampy epigastric pain in a 32-year-old Negro male preceded by vague abdominal complaints of three-weeks duration. There was no history of peptic ulcer or other gastrointestinal disease. A plain film of the abdomen showed radio-opaque material in the region of the pancreas and stomach. Similar to the case currently presented, the ECG was found to be indicative of extensive anterior myocardial ischemia. The patient died three hours after arrival at the emergency room in profound shock. Chemical analyses revealed a high content of arsenic in all organs examined at autopsy.

An excellent review of the clinical and pathological findings of acute arsenic poisoning is presented in another clinical pathological conference in the *American Journal of Clinical Pathology*,³ in which the patient showed signs of acute gastroenteritis together with ECG findings of myocardial ischemia

as in the case currently presented. No films of the abdomen were shown and the discussants did not consider heavy metal poisoning. The patient had been fed arsenic by his wife with homicidal intent. A similar case, showing characteristic distribution of the opaque material in the stomach and lower bowel has recently been reported⁴ in which the patient, a chronic alcoholic with a history of duodenal ulcer was suspected of perforation till examination of the gastric content showed arsenic in large amounts.

It is interesting to note that in the cases reported the diagnosis of acute arsenic poisoning was usually made post mortem, and in the CPC's published was either not considered or not given primary consideration.

Gonzales et al.⁵ review thoroughly the chemistry, clinical findings, toxicology and pathology of acute arsenic poisoning but fail to mention the fact that arsenic is radio-opaque and can be detected in a radiograph of the abdomen. They point out while at one time it was a common means of murder it is now rare. Of 114 cases of accidental ingestion of arsenic or undetermined causes of arsenic poisoning in the records of the chief medical examiner of New York between 1918 and 1951 there were only 13 cases in which it was used with homicidal intent. The authors call attention to the fact that arsenic salts occur as a heavy white powder with a faint non-distinctive taste and are in common use as ingredients of plant sprays and animal and insect poisons. These compounds can be easily obtained and incorporated in food without detection. A recent report by Hilfer and Mandel⁶ of a case of a 46-year-old woman with acute arsenic poisoning stressed the fact that the early administration of BAL in case of unexplained radio-opaque material in the gastrointestinal tract under suspicious circumstances may be a lifesaving procedure.

Conclusion

It would appear then that in cases of acute abdominal pain with or without shock when

a flat plate of the abdomen reveals opaque material in the stomach a sample for analysis should immediately be obtained. The presence of such material in the stomach and possibly also in the lower bowel with the intervening bowel devoid of all content should arouse suspicion of heavy metal poisoning thus necessitating immediate definite therapy even in the absence of a positive analysis for arsenic.

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Good Riddance to "The Good Old Days"

Anybody who wishes for the return of "the good old days" so as to get things cheaper will realize that the price he has to pay is too great. This was the age of rickets and deformities. Maternal mortality was high. Each infant born had to struggle just to survive. Each adult was lucky if he could live to the age of forty. The great scourges were tuberculosis, pneumonia, typhoid fever, diphtheria, measles, scarlet fever, small pox, mastoid and brain abscess, meningitis and many other infections too numerous to mention, but all conquered now. Want to go back to "the good old days"? Would you want the penny prescription of yesteryear for the dollar ones of today, or the life of a century ago for the luxuries of today? Would you trade modern wonder drugs for old-fashioned, home-spun medicaments? People should know that particularly in health matters, as elsewhere "cheap is cheap".—"An Rx for a Dime" in *New York State General Practice News*, November-December 1963.

Tuberculin Survey

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A tuberculin survey of first and seventh grade children has been made and interpreted with new knowledge about the significance of tuberculin sensitivity.

NEARLY EVERYONE who has had a tuberculous infection will react to an intradermal test with PPD or O.T. New knowledge from recent epidemiological research has indicated that traditional beliefs about the significance of tuberculin sensitivity must be modified.¹ Recognition of organisms, antigenically related to virulent tubercule baccilli but rarely pathogenic, necessitates re-evaluation of the meaning of tuberculin sensitivity.

Reports have been appearing for many years describing tuberculosis-like disease caused by acid-fast organisms now referred to as "atypical" or "unclassified" mycobacteria. Infection with these organisms appears to be a frequent occurrence but the appearance of a disease state is relatively infrequent.

Most investigators feel that a test dose of 5 tuberculin units (TU) of PPD or O.T. is sufficient for survey work^{2,3} and the use of higher dosages will only produce cross reactions with these unclassified mycobacteria. Many studies have been made on the prevalence of reactors to antigens prepared from these mycobacteria. Studies on Naval recruits from Virginia in 1958 revealed 47% reacting to a 0.0001 mg (5 TU) test dose of PPD-B.¹ In a study of college freshmen in Maryland, 22.6% of sixteen-year-olds and 36.8% of twenty-

year-olds showed a reaction of 5 mm or more induration to PPD-B.⁴ Similar observations have been made by other investigators.⁵

As tuberculosis has become less common, there has been a change in the number and age distribution of reactors. A study of medical students at Duke has shown a marked change in the pattern of reaction to tuberculin. In the period 1930-40, 60% of the second year students reacted to 0.1 mg of O.T. and an additional 20% reacted to 1 mg O.T. In the group studied 1959-60, only 7.5% reacted to 5 TU of PPD-S and an additional 39.1% reacted to 250 TU of PPD-S.⁶ Although testing against additional mycobacteria was not done, many of those reacting only to 250 TU PPD-S probably represented cross reactions to these antigens.

Since tuberculosis has been a major public health problem in Hanover County, a survey of certain school children was planned to help evaluate our tuberculosis control program and to obtain information on the prevalence of reactors to both PPD-S and PPD-B. Children from the first and seventh grades were selected as test subjects. The mean ages were 6.7 ± 0.7 years for the first grade and 13.2 ± 1.2 years for the seventh grade students. The seventh rather than eighth grade was selected because of accessibility. The participation was voluntary and only 76% of the parents requested it. Due to absenteeism, only 70% of the school population was included in the study.

All tests were administered and read by the same individual to minimize variation. Platinum needles, flame sterilized, were used since this method is felt to be safe from danger of transferring hepatitis and makes possible saving in time and equipment. Standard PPD-S and PPD-B were furnished by the United States Public Health Service.

A dose of 5 TU PPD-S and 5 TU PPD-B was administered intradermally into the forearms and readings were made at the end of 72 hours. Measurement was made to the nearest millimeter of the area of induration. If only erythema was present, the test was read as negative.

Table #1 shows the results of the tests. A reaction of 10 mm or more induration is

and seventh grade students. This may indicate that most of the tuberculosis exposure of white children comes from non-family contacts while the exposure of non-white children is primarily from family contact. Contacts outside of close friends and family are very limited for children under school age but become increasingly more frequent as the child grows older.

TABLE 1
SIZE OF TUBERCULIN REACTION BY TYPE, GRADE, AND RACE

GRADE	RACE	SIZE INDURATION (mm)					
		0	0-4	5-9	10 mm and Over	Over 5 mm	
		No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
1	W	349 (99.2)	1 (0.3)	1 (0.3)	1 (0.3)	2 (0.6)	
	Non-W	170 (99.6)	2 (1.1)	1 (0.6)	3 (1.7)	4 (2.3)	
	Total	519 (98.3)	3 (0.6)	2 (0.4)	4 (0.8)	6 (1.1)	
7	W	279 (95.2)	7 (2.4)	2 (0.7)	5 (1.7)	7 (2.4)	
	Non-W	108 (94.7)	2 (1.8)	2 (1.8)	2 (1.8)	4 (3.5)	
	Total	387 (95.1)	9 (2.2)	4 (1.0)	7 (1.7)	11 (2.7)	
PPD-B							
1	W	314 (89.2)	17 (4.8)	16 (4.5)	5 (1.4)	21 (6.0)	
	Non-W	142 (80.7)	13 (7.4)	13 (6.2)	11 (5.7)	21 (11.9)	
	Total	456 (86.4)	30 (5.7)	29 (5.1)	16 (2.8)	42 (8.0)	
7	W	214 (72.8)	24 (8.2)	34 (11.6)	23 (7.5)	56 (19.0)	
	Non-W	67 (58.8)	5 (4.4)	15 (13.2)	26 (23.7)	42 (36.8)	
	Total	281 (68.9)	29 (7.1)	49 (12.0)	49 (12.0)	98 (24.0)	

generally accepted as positive for tuberculosis. A reaction between 5-10 mm may represent a cross reaction with one of the unclassified mycobacteria. Tables #2 and #3 show the relationship between reactors to both tuberculin.

Discussion

1. PPD-S reactors—10 mm or more induration was considered as positive. Analysis of Table #1 reveals no significant difference in the reaction rates between white and non-white children. The rates for first and seventh grade non-white children are the same. There is a difference of some significance ($p=0.05$) between the white first

Table #4 is a summary of findings on all children who reacted to PPD-S with 5 mm or more induration. Case #7 and two siblings were placed on INH prophylaxis because of recent conversion. Cases #11 and #12 are sisters but only Case #11 had recently converted. One additional sibling who had also converted recently was placed on INH prophylactically. Case #14 was placed on prophylactic INH because of history and positive tuberculin. No prior tuberculin tests had been performed.

It may be noted in Table #4 that only two of the six children with less than a 10 mm reaction to PPD-S had a history of known contact with tuberculosis, while 9 out of 11 with reactions greater than 10 mm

had a history of known exposure. This may be in line with the belief that these weaker reactions may be due to infection with the atypical mycobacteria.

The cases placed under treatment would indicate a case finding rate of 3.2/1000 examined. This would suggest that tuberculin

2. PPD-B reactors—10 mm or more induration considered indicative of prior infection.

There are significant differences between races in the frequency of reactions and between age groups among the white children. Among first graders the non-white rate is

Total	504	0	1	1	1	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	513
18	1																											1
17																												0
16																												0
15	2																											2
14					1																							1
13						1														1								2
12																												0
11	4																											4
10	6	1																										7
9	4																											4
8	2																								1			3
7	6		1												1													8
6	3																											3
5	9																											9
4	13																											13
3	9															1												10
2	7																											7
1																												0
0	438					1																						439
0		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total

PPD-S
TABLE 2
CORRELATION TABLE—SIZE TUBERCULIN
Reaction (mm Induration)—6-8 Years

testing may be a good means of case finding in a low incidence group. Further analysis of these cases, however, indicates that they could have been detected with better contact investigation. Lack of cooperation on the part of these families had prevented detection on routine contact examinations. Plans call for more intensive contact follow-up in the county.

four times as great as the white ($p=0.01$), and three times as great among seventh graders ($p=0.001$). The difference between non-white first and seventh grade students is probably not significant ($p=0.07$). Most non-white residents of the county are in the lower socio-economic levels, and the pattern of infection is like that of tuberculosis.

Table #5 summarizes the results of the

x-rays on reactors to the Batty antigens. Children with a reaction greater than 10 mm of induration were re-x-rayed two months later. At that time, a second PPD-S (5 TU) test was performed. There were no reactions greater than 5 mm of induration.

Table #6 is a summary of the cases with abnormal x-rays. No treatment was recommended but those with x-rays suggestive of tuberculous infections will be followed. Case No. 2 may well represent infection with

most probable infective agent would be a very laborious procedure, hardly justifiable in light of our present knowledge of these infections.

Conclusions

The intermediate goal proposed by the PHS ad hoc committee as a follow-up of the Arden House Conference on Tuberculosis was:

PPD-B	Total	385	0	3	5	1	1	1	1	2	0	1	0	0	2	0	2	0	1	1	1	0	0	0	1	0	0	0	408
	18	0									1																		1
	17	0																											0
	16	0																											0
	15	5			2																								7
	14	2													1				1										4
	13	2																											2
	12	4					1	1						1															7
	11	7		1		1			1					1					1										12
	10	16		1	1														1						1				20
	9	2			1																								3
	8	11		1					1																				13
	7	9							1																				10
	6	11													1														12
	5	11			1																								12
	4	13																											13
	3	13																											13
	2	5																											5
	1	0																											0
	0	274																											274
	0		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total

PPD-S

TABLE 3

CORRELATION TABLE—SIZE TUBERCULIN
Reaction (mm Induration)—Over 12 Years

histoplasmosis or even another type of atypical mycobacteria. Case No. 1 and some of the other 76 cases with a reaction of 5-9 mm may also represent infection with other atypical mycobacteria. To identify the

“For the community, control of the spread of infection to the point where not more than one per cent of the fourteen-year-olds react to tuberculin.”

Testing of the fourteen-year-old group

presented additional problems of time and accessibility; so, the seventh grade group (13.2 years old) was used. The rate of reactions to PPD-S in the 13-year-olds was 1.7%. While this is considerably above the goal set at the Arden House Conference, it

to rural residents. In our case, most of these children have spent the greater part of their life in rural surroundings.

The study of Navy recruits from Virginia (1958) revealed 47% reacting to a 5 TU test dose of PPD-B with an induration of

TABLE 4
RFACTORS TO PPD-S

CASE	Reaction (mm Induration)		Contact With Tuberculosis	X-Ray	Treat- ment
	PPD-S	PPD-B			
1. WM 14	8	11	None Known	Negative	None
2. WM 6	6	13	None Known	Bilateral Hilar Calcifications	None
3. WM 14	7	8	None Known	Hilar Calcifications	None
4. CM 12	6	12	Great Aunt	Pulmonary and Hilar Calcifications	None
5. CM 6	6	0	Neighbor	Prominent Broncho-Vascular Markings	None
6. CF 12	8	7	None Known	Some Small Calcifications	None
7. WM 7	15	3	Uncle	Some Hilar Fullness	INH
8. WF 15	13	11	None Known	Small Calcifications	None
9. WM 14	23	10	Father	Primary Tuberculosis, Healed	None
10. WM 12	15	6	None Known	Bilateral Hilar Calcifications	None
11. CF 13	19	14	Father	Essentially Negative	INH
12. CF 7	25	8	Father	Negative	None
13. CM 6	22	13	Grandfather	Calcified Hilar Nodes, Bilaterally	None
14. CF 6	14	7	Grandfather	Primary Tuberculosis Infection	INH
15. WF 12	18	10	Known Exposure	Healed Primary	None
16. WM 14	15	14	Mother (Foster Mother)	Healed Primary	None
17. CF 12	18	11	Uncle	Calcific Changes, Left Hilar	None

is better than many other areas in the state. If new infections can be prevented in the six-year-old group, it is possible that this goal can be reached in eight years.

6 mm or more.¹ (This may be compared with first grade reactors of 8% and seventh grade reactors of 24% showing 5 mm or more induration.) 22.6% of the 16-year-

TABLE 5
X-RAYS OF PPD-B REACTORS

	Size of Reaction (mm Induration)	Negative	Negative to Be Re- X-rayed*	Abnormal	Reacts PPD-S 5 mm	Not X-rayed†	Total
1st	5-9	14	4	1	3	7	29
	10+	2	6	3	1	4	16
7th	5-9	39	3	1	3	3	49
	10+	8	19	7	8	7	49
All	5-9	53	7	2	6	10	78
	10+	10	25	10	9	11	65

NOTE: *Re-x-ray requested on the basis of 10 mm or greater reaction to PPD-B in most cases.
†A number were x-rayed by private physicians. None showed abnormalities.

The study of Sartwell and Dyke² of 16 year-old college freshmen, which revealed 5.6% reacting with 5 mm or more induration to PPD-S may be compared with a 2.7% rate among our 13-year-olds. The rate was twice as high among city as opposed

olds in the college freshman study² showed a 5 mm reaction to 5 TU PPD-B and 36.8% of the 20-year-olds reacted to this dose.

Using 10 mm or greater induration as indicating a positive reaction, there were very few significant cross reactions in this

study between PPD-S and PPD-B. There were several x-rays which were read as indicating primary tuberculosis or tuberculosis infection with a negative PPD-S. Without the use of multiple antigens, the correct diagnosis can be made only with difficulty.

Further studies are indicated to determine the frequency of these reactors in other segments of the population. Since there have been reported cases of clinical disease with Batty-type mycobacteria, additional information is needed regarding indication for any type of treatment.

suggestive of healed or active primary tuberculosis.

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TABLE 6
REACTORS PPD-B WITH PULMONARY FINDINGS

CASE	Reaction (mm Induration)			Initial X-Ray	Repeat X-Ray
	1st PPD-S	2nd PPD-S	PPD-B		
1. CF 15	0	0	7	Thickening of bronchial trunks 3rd interspace	Negative
2. WM 7	0	2	7	Prominent root structures bilaterally and bilateral pulmonary and hilar calcifications	Same
3. CF 13	0	0	10	Negative	Small area of increased indensity in 3d interspace? viral pneumonia?
4. CM 14	0	0	10	Right hilar shadow heavier than normal	Negative
5. CM 7	0	0	10	Apical and first interspace trunks heavier than normal	Negative
6. WF 8	0	0	10	Root zones heavy	Negative
7. CM 16	0	0	10	Inactive primary	Same
8. WF 15	0	2	10	Right hilar shadow heavier than normal	Same
9. CF 13	0	2	11	Thickening trunks	Negative
10. WF 6	0	0	20	Right hilar shadow thicker than normal	Primary Tbc to be ruled out
11. WF 13	0	0	12	Lower lobe trunks heavier than normal	Negative
12. WM 15	2	2	10	Hilar shadows are heavy. Compatible with primary tuberculosis infection	Same
13. WM 14	4	2	11	Primary tuberculosis to be ruled out	Normal

Summary

A total of 519 first grade and 387 seventh grade children received intradermal doses of 5 TU PPD-B and PPD-S. 0.8% of the first grade and 1.7% of the seventh grade children showed a reaction of 10 mm or more induration to PPD-S. Three of these children were placed on prophylactic INH as a result of this survey.

2.8% of first grade and 12.0% of seventh grade children showed similar reaction to PPD-B. Five of these had abnormal x-rays

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Patients Come and Patients Go (And Return)—A Ten Year Study

The program of treatment in the mental hospitals has changed in recent years. Drug therapies have largely replaced other methods and new philosophies of patient care have developed. The public has become more aware that mental illness is a disease that can be treated. These and other factors have affected the change in patient admissions, the character of resident patients, the releases and returns. This is the first of a series of articles to deal with the subject.

From a statistical analysis of a ten-year period, some of these changes can be identified. This period, ending June 30, 1962, reflects some major changes taking place in hospital treatment and care.

During the ten-year period, there were 42,710 patients admitted to the four mental hospitals (24,871 first admissions and 17,839 readmissions). This is an average of 4,271 patients admitted a year. The average increase per year was 2.2% for first admissions and 6.9% for readmissions, making a total average increase of 9.1% per year.

Admissions

The admission trend has been on the increase. The highest point for first admissions was 1958. There was a drop in 1959 followed by an increase (See Chart I).

The rate of first admissions drop and the relative leveling off might be due to the fact

that in recent years mentally ill patients have become treatable as "outpatients" and due to the fact that private psychiatric hospitals have expanded. Also, there has been an increase in the number of community general hospitals furnishing beds for mentally ill patients.

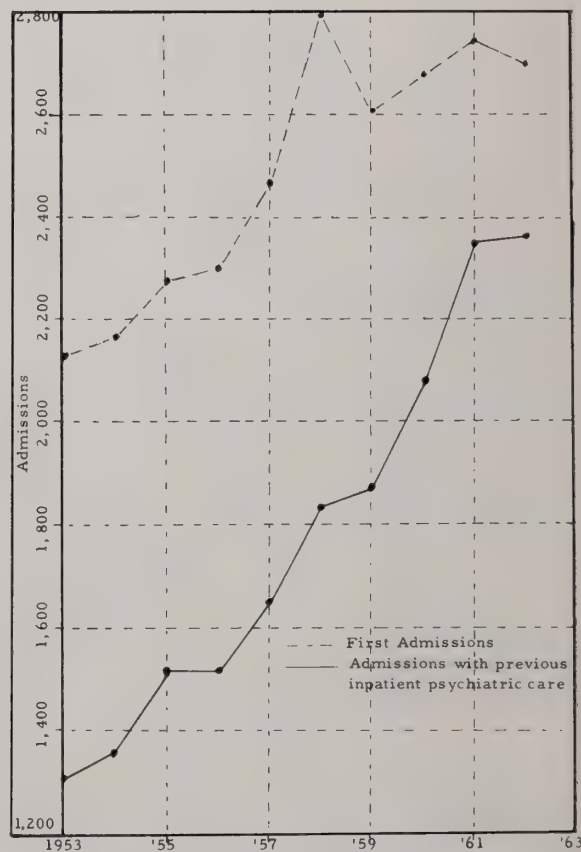


Chart I - Admission Trend in Virginia Mental Hospitals for Ten Year Period Ending June 30, 1962

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Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

The general economy has been good, which is always a factor. When people can find work, their mental health is better. Relatives are more able and willing to support mental invalids in their homes or in private hospitals, during prosperous times.

Readmissions

The readmission increase is sharper than the first admission increase and has never dropped. This readmission increase is due to a number of factors. The use of psychiatric facilities in general hospitals and private psychiatric institutions for early treatment is on the increase. As pointed out, this may have reduced the first admissions. But it also *increases* readmissions. Such patients who later go to the state hospitals, are counted as readmissions because of previous in-patient psychiatric care. As more of these facilities develop at the community level, the readmissions rate will probably increase. In earlier years, with fewer such facilities, the readmissions were mostly those with previous care in state mental hospitals.

Of course, this will also cause a change in the character of the patients in the state hospitals, tending toward a more chronic type of patient as years go by. More and more, they will be patients who have had earlier treatment or less successful treatment by private community facilities.

Previous admission to private psychiatric hospitals and psychiatric facilities in general hospitals is one of the biggest factors in the readmission increase. In 1962, about 40% of the readmissions were from hospitalization in other facilities without previous hospitalization in Virginia's state hospitals.

A small but definite part of the rising readmission rate can be attributed to the fact that we are treating more alcoholic patients, for alcoholics are notoriously subject to relapse.

The rising readmission rate, however, is probably mostly due to the new drugs. With psychotropic drugs, many partially treated patients can be safely discharged who could not have been discharged in former years. However, whenever the discharge rate goes up, the readmission rate will go up accordingly. The fact that our hospitals are growing to be more attractive as places to stay or return to ("open door" policy for example, better food and housekeeping, recreation, etc.) may also influence the readmission rate.

Although readmissions have increased, it is more advantageous for the patient to be returned to the community as soon as possible, even if he has to later be returned. This at least gives an opportunity for the patient to try to adjust in the community and to assume a productive life. Remaining in the hospital for a long period of time causes a patient to become "institutionalized". It is harder for him to accept a changed community life and to be accepted by the community when he returns. Without earlier releases, we would undoubtedly build up a larger resident population.

Steroid Drug Bank Program for Kidney Disease Patients

What about your Kidney Disease patients for whom Steroids are indicated?

Does the cost present a problem for some of them?

Virginia residents can now obtain, on a prescription basis, at less-than-wholesale cost, certain Steroid drugs. This Drug program is possible because of a grant from the Richmond Soroptimist Club combined with

resources of the Virginia Chapter of the National Kidney Disease Foundation. Virginia Chapter's cooperating Pharmacy handles dispensing and shipping of prescribed drugs.

Telephone Richmond 358-9814 or write the Virginia Chapter, National Kidney Disease Foundation, 2501 Monument Avenue, Richmond, Virginia, 23220, for a drug list and application forms.

Leukoagglutinins

Until 1952 only sporadic investigations were performed in relation to heterologous immune sera with activities directed against leukocytes. In 1952 there emerged an interest in isoleukoagglutinin production, particularly that produced in humans, directed towards interpreting mechanisms involved in the production of leukopenia or agranulocytosis. In the same year Moeschlin & Wagner reported the presence of a leukocyte-agglutinating factor in the blood of a patient with agranulocytosis due to pyrimidin sensitivity.

Following the appearance of these reports the picture became rather complicated. This was due to the fact that antigen-antibody reactions of leukocytes (leukocyte immunology) has assumed the status of a major line of research activity. Interest has been widely divergent. Results, however, have often been contradictory because of the delicate nature of the leukocytes, the difficulty in preparing pure leukocyte suspensions and their property of spontaneous clumping. In spite of this, there is general agreement on a number of the properties of the leukocyte antigens and their antibodies.

Leukocyte antigens are specific for white cells and are of two general forms:

- a) surface antigens that are present on cellular walls of leukocytes and
- b) intracellular antigens that are present in the cytoplasm and nuclear material of leukocytes. They react with a serum factor most commonly found in collagen diseases to be distinguished from the L. E. factor.

Antibodies (leukoagglutinins) may be of several forms:

- 1) Naturally occurring isoagglutinins found in individuals without prior transfusion. These are rare and when present react only weakly. They do not react with the leukocytes of the serum donor.

2) Immune isoagglutinins are thermostable gamma globulins. These antibodies are most commonly found in multitransfused patients where there is a direct relationship between the incidence of antibodies and the number of units of blood transfused and in multiparous women where, as the number of gestations increases, the frequency of finding leukoagglutinins becomes higher. Not infrequently patients with leukoagglutinins develop moderate to severe non-hemolytic transfusion reactions during or following the infusion of whole blood. Often intolerance to whole blood is of such severity as to require the removal of the buffy coat from blood before the patient can tolerate further blood transfusions. Such transfusion reactions were previously termed pyrogenic and were attributed to bacterial products. At present it is believed by most immunohematologists that the vast majority of pyrogenic transfusion reactions are due to leukocytes of the donor reacting with corresponding antibodies in the recipient resulting in fever. Foeto-maternal leukocyte incompatibility is responsible for leukoagglutinins in multiparous, non-transfused women. Besides multiparity, the frequency of finding leukoagglutinins is also directly related to whether the patient was previously transfused or not. Immune isoagglutinins due to foeto-maternal incompatibility can pass the placental barrier and be carried into the foetal circulation causing leukopenia or even death of the infant. The main features of leukolytic transfusion reactions are fever and chills which may or may not be accompanied by myalgia, nausea and vomiting.

3) Auto-leukoagglutinins are leukocyte antibodies directed against the patient's own white cells. Such antibodies are commonly the cause of leukopenia and agranulocytosis. The existence of these antibodies is closely related with the disease condition; hence treatment of the underlying disease has most

often simultaneously ameliorated the leukopenia and resulted in the disappearance of the antibody from the patient's serum. These antibodies are of two varieties, complete and incomplete. The incomplete antibodies are about three times as common as complete antibodies. The majority of sera containing incomplete auto-antibodies are from patients with Lupus erythematosus, Rheumatoid arthritis and Felty's syndrome.

4) Drug-induced leucoagglutinins are agglutinins found in sera of patients sensitive to certain drugs with resulting immuno-leukopenia. These antibodies may be passively transferred. Drugs which were found to produce such anaphylactoid leukopenia include pyrimidin, methyluracil, mercurhydride, thiomersin, novalgin-chinin, phenylbutazone, sulfapyridine, salazopyrin, diuregan and quinine.

The above antibodies constitute the vast majority of conditions in which leucoagglutinins, complete or incomplete are found. However, there have been reports of other leucoagglutinins with different activities. These were not as fully studied as the above but are worth listing. They include:

- 5) Lysins for lymphocytes and neutrophils
- 6) Opsonins for lymphocytes

7) Complement fixing leukocyte antibodies—commonly found in polytransfused patients

8) Homologous leukoprecipitins — commonly found in acute leukemia and Lupus erythematosus

To detect leukocyte antibodies various methods are available, some are simple and some too elaborate for practical routine purposes. Most of the simple methods are direct agglutination tests which detect complete leucoagglutinins only. From the above account, it is obvious however that two methods are required. One which would detect complete antibodies and another which will detect incomplete antibodies. Most of the methods for the detection of incomplete antibodies are extensive and therefore impractical as a routine blood bank procedure. One of the simple methods that is reliable and practical is the enzyme technic of Hossaini. This method was found to be sensitive for detecting complete and incomplete antibodies in the sera of 148 transfused patients. Of these, 53 sera only reacted by the direct-agglutinating technic.

A. A. HOSSAINI, Ph.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

The Complexities of Generic Equivalents

In many instances the most frequent error made is the assumption that if one places a specific quantity of a given drug in a dosage form, the product will provide the full biologic and therapeutic effects of the drug irrespective of how it is prepared, by whom it is manufactured, by whom it is taken, and when it is taken. The literature indicates specifically that the mere presence of the labeled amount of drug in a given dosage form is no assurance of the therapeutic efficacy of the product. Here the physician must be concerned with the all-important question, "Will all similar products produce the same therapeutic response?"—Jaime N. Delgado, Ph.D., and Frank P. Cosgrove, Ph.D., in *Texas State Journal of Medicine*, October 1963.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Multi-Test Screening

Medical science, being dynamic, is constantly devising new methods to attain the goal of efficient medical service. One of the relatively new concepts which have been put into successful practice during recent years is multi-testing or multiple screening.

The Alexandria City Health Department has completed its thirteenth annual multi-test program and the health director is convinced that these programs are a definite asset to the medical service of the community.

The basic procedure is for a group of paramedical personnel to test quickly a number of people at one time and place.

The various tests are so structured that those individuals who probably do have a certain condition are separated from those who probably do not have that condition. Such a screening process necessitates medical planning in order to minimize "over referrals" and "under referrals".

Screeners submit the positive findings to a qualified diagnostician for evaluation and for further disposition of the person who has been tested. This is the manner in which the clinical and x-ray laboratories have functioned for years as an adjunct to medical practice.

Community enthusiasm and participation, as well as local medical society endorsement and cooperation, are considered of vital importance to success.

The tests chosen must have the important biostatistical characteristics of validity and reliability—the tests must screen accurately and consistently. The yield of a screening program can be measured four ways:

1. The number of previously unknown verified physical defects found in the total population screened.

2. The number of persons benefited by early prompt referral to a qualified diagnostician.
3. The number of previously diagnosed persons who are motivated to return to the physician after having lapsed from treatment.
4. The number of "silent" cases of communicable disease which are prevented from spreading such disease to the family or to the community.

The cost of multi-testing should be evaluated in monetary terms and in terms of the relative amounts of time demanded of professional and non-professional personnel.

The Alexandria Health Department emphasizes the following points in its program:

The multi-test program is not, nor is it intended to be, a substitute for a complete examination by a physician.

Health education of the public is a primary goal. Inherent in this point is the fact that the health department, the practitioner, and the community work more efficiently if they work together toward a common goal. This means that good lines of communication should exist at all times.

The bringing together of large numbers of people provides an opportunity for professional societies and voluntary agencies to demonstrate an efficient teamwork with the local health department.

Inasmuch as "bottlenecks" must be minimized or prevented, the average speed of the various tests must be geared to the speed of the shortest test. For example, if the color vision test requires only one minute to perform, and the hearing test requires an average of three minutes, then three testers with three audiometers must

be provided in order that the rate of patient flow may be maintained at the average of one person per minute at the hearing test station.

There is no particular formula for the number or type of tests which may be used in a particular community, however, most communities can easily provide the following tests:

1. Height and weight.
2. Visual acuity (far and near vision).
3. Color vision.
4. Hearing (pure-tone audiometer).
5. Chest x-ray (70mm).
6. Urinalysis (albumin and sugar).

With the cooperation of other available groups, one or more of the following additional tests have been performed in Alexandria:

1. Dental (special attention may be given not only to caries but also to the possibility of oral cancer).
2. Glare test and night vision.
3. Reaction time.
4. Blood pressure.
5. Papanicolaou smear in women.

6. Venipuncture for—
Rh factor and blood grouping
Hemoglobin
Serologic test for syphilis
Blood sugar.
7. Electrocardiogram (one or more leads).
8. Heart-sound recorder.
9. Speech evaluation.
10. Tuberculin tests.
11. Urinalysis for bilirubin (research).
12. Tonometry for intraocular tension.
13. Visual field screener.

It is important that both the individual and his own practitioner be informed of the test results as promptly as possible while a high degree of motivation for evaluation still exists.

A statement from the National Conference on Chronic Disease reads: "Screening programs are one of the practical ways of bringing the benefits of early detection to as many people as possible."

The continued success of screening programs is dependent upon the realization by all concerned that screening is designed as an auxiliary to the busy physician.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	January 1964	January 1963
Brucellosis	0	0
Diphtheria	0	0
Hepatitis	37	165
Measles	538	351
Meningococcal Infections	5	10
Meningitis (Aseptic)	2	5
Poliomyelitis	0	0
Rabies (in Animals)	30	16
Streptococcal Infections	1193	1062
Tularemia	3	3
Typhoid Fever	0	0

The Tobacco Report

THE Report of the Advisory Committee to the Surgeon General of the Public Health Service, *Smoking and Health*, on the surface is a strong indictment of cigarette smoking as a hazard to health in a number of categories. The Committee is composed, in the main, of outstanding physicians who acknowledge the cooperation and assistance of no less than 190 qualified individuals and institutions. There should be no question as to the competency and objectivity of the Committee which is headed by Luther L. Terry, M.D., Surgeon General of the United States Public Health Service.

Despite all these factors which argue for the validity of this report it is difficult to escape the conviction that the conclusions are too sweeping and not entirely justified by the evidence presented. The writer is a reformed cigarette smoker and one who hopes that none of his offsprings will acquire the habit, so there is no reason for him to have a tender feeling for the weed or to be biased in its favor. Despite this background it was with a feeling of satisfaction and vindication that he read an article by Alan S. Donnahoe, in the January 19 issue of the Richmond Times-Dispatch entitled "‘Smoking and Health’: The Other Side of the Report." Mr. Donnahoe, is the executive vice-president and assistant publisher of the Richmond Times-Dispatch and News Leader. He has written many articles in statistical and professional journals and lectured in statistics at the University of Richmond.

Mr. Donnahoe pointed out that the Advisory Committee included eight doctors, one chemist and only one statistician. He seriously questioned the seven statistical surveys upon which the Committee's findings were based and stated in "terms of basic methodology, by the Committee's own admission, these surveys leave much to be desired." In other words these surveys "cannot be considered as representative of any known population of any kind." To the trained statistician this is a serious indictment.

Many inconsistencies are present. Mr. Donnahoe stated "in three of the seven studies, the all-adjusted mortality rate of heavy cigarette smokers was lower than the average for all males in the United States population and in one survey was almost 30 percent lower than the national average!" The Committee's explanation that the "studies involve populations which are healthier than United States males as a whole" is not convincing. In five studies that depended on questionnaires, failure of individuals to respond occurred in 15, 32, 32, 43 and 44 percent.

Some of the findings were bizarre in the extreme. Examples were the reassuring intelligence that heavy cigarette smokers who reached the age of 80 had 40 percent less mortality than non-smokers and that men smoking less than 15 years have a slightly lower mortality rate than non-smokers. If we must discount such favorable findings, on the basis of the limited number of individuals reporting, at what point in the report should we begin to attach importance to the findings?

The statistics concerning pipe smokers were equally mystifying. For example, ex-pipe smokers showed higher death rates than both non-smokers and current smokers in four out of five studies. As Mr. Donnahoe sums it up "it is quite safe to smoke a pipe, but highly dangerous to discontinue the practice!" The major hazard in cigarette smoking has generally been considered the increased incidence of cancer of the lung. This is not borne out with respect to the incidence of lung cancer in other countries. The report shows that Holland, Switzerland, Finland and Great Britain have a lower per capita consumption of cigarettes than the United States but all have a higher mortality from lung cancer. In fact Great Britain's mortality is more than double that of the United States.

Few physicians would deny that excessive cigarette smoking is harmful. It no doubt initiates various pulmonary conditions and certainly aggravates pre-existing ailments. This is especially true in chronic bronchitis and emphysema. In all reports on the dangers of smoking, the emphasis, instead, is placed on the carcinogenic properties of cigarette smoke. Despite the general impression to the contrary this report falls short of proving the relationship between smoking and cancer.

Mr. Donnahoe asks why, in view of the astronomical sums now being spent on cancer research, has no serious effort been made to produce carcinoma in experimental animals by tobacco smoke or extracts. His explanation is "scientists do not believe they can establish any such relationship and hence are not willing to waste their time in this type of effort." Be that as it may this report bears out what physicians have known for a long time—namely, that the causes of cancer are complex and the present survey has done little to clarify the subject.

HARRY J. WARTHEN, M.D.

New Members.

The following new members were received into The Medical Society of Virginia during the month of January:

Bruce Richard Adkins, M.D., Weber City
Dewey James Bailey, Jr., M.D., Roanoke
Ellsworth Y. Ching, M.D., Va. Beach
Allen Manville Clague, Jr., M.D.,

Roanoke

Macon Smiley Couk, M.D., Richmond
James Parker Cross, Jr., M.D., Norfolk
Feyyaz Erdim, M.D., Roanoke
Edward J. Gallagher, M.D., Fairfax
George A. Harkins, M.D., Norfolk
Lacey Milton Jacobs, Jr., M.D., Richmond
Robert William McConnell, M.D.,

Lynchburg

Leslie Francis McCoy, M.D.,

Charlottesville

William F. Morrissey, M.D., Arlington

Charles Hilary Moseley, Jr., M.D.,

Petersburg

Robert Leroy Putze, M.D., Franklin

John Edmond Roberts, M.D., Alexandria

Jack Marrell Rogers, M.D., Radford

Albert John Russo, M.D., Salem

Harvey Brown Ryder, M.D., Waynesboro

Russell Smiley, Jr., M.D., Salem

William Frederick Sowers, M.D., Staunton

Joseph Paul Wampler, M.D., Manassas

Virginia Diabetes Association.

The four papers or abstracts, beginning on page 102, of this issue, were presented on the program of the Virginia Diabetes Association meeting jointly with the Virginia Academy of General Practice in May. A fifth paper on The Regulation of Glucose Metabolism by Dr. Stanton Segal was not available for publication.

Your attention is called to this annual scientific program of the Association held each spring. The next program will be May 7-10, 1964, in Norfolk. All interested physicians are cordially invited to attend.

Dr. Vincent W. Archer,

Charlottesville, has been named as 1964 Virginia State Chairman of The World Medical Association.

New Officers.

Since the list published in the February issue of the Monthly, the following component societies have reported new officers for 1964:

Danville-Pittsylvania Academy of Medicine

President—Dr. W. L. Sager

Secretary—Dr. Baxter H. Byerly

Fairfax County Medical Society

President—Dr. Kenneth Berger

President-Elect—Dr. Joseph Prominski

Secretary—Dr. Donald Thorn

Treasurer—Dr. Mario Espinola

Floyd County Medical Society

President—Dr. Ernest E. Moore

Secretary—Dr. F. Clyde Bedsaul

Northampton County Medical Society

President—Dr. Joseph Gladstone

Secretary—Dr. William F. Bernart

Northern Virginia Medical Society

President—Dr. James R. Holsinger

Secretary—Dr. Robert C. Green, Jr.

Dr. James G. Snead,

Roanoke, was made a Fellow of the American College of Radiology at its meeting in Chicago in February.

Dr. Anthony J. Munoz

Has been presented the Farmville Junior Chamber of Commerce distinguished service award. The selection was made on the basis of contribution to community and state welfare and betterment, leadership ability, personal and business progress and total participation in civic activities. Dr. Munoz is a native of Spain and a graduate of Valencia University.

Hospital Staff.

Dr. W. C. Hagood has been elected president of the Halifax Community Hospital medical staff. Dr. F. J. Dillard is vice-president and Dr. G. E. Chappell, secretary.

Regional Medico-Legal Workshop.

The workshop for medical examiners, pathologists, physicians, Commonwealth's attorneys, and homicide investigators will be held on March 19th at the Martinsville General Hospital, Martinsville.

This program is acceptable for six accredited hours by the American Academy of General Practice.

Dr. Thomas H. Jennings

Has been elected president of the Bedford County Chamber of Commerce for 1964.

Richmond Academy of General Practice.

Dr. Frederick H. Savage has been installed as president of the Academy. Dr. Jose Coll is president-elect; Dr. William Robinson, vice-president; Dr. Edward M. Eppes, III, secretary; Dr. Marvin Weger, treasurer; and Dr. Darrell Gilliam, member of the board.

Dr. Thomas C. Iden,

Berryville, has been named chairman of the Winchester Evening Star Leadership Awards Committee for 1964. He and seven other area residents will select a recipient from each of the three local high school systems to receive a \$350 Star Leadership Award.

Dr. James B. Adams,

Emporia, has been appointed to the Greensville County School Board for a four-year term.

The Northern Virginia Clinical Assembly

Will be held at the Marriott Motel, Arlington, on March 11th. The program will be given by Columbia University physicians and surgeons. Further information may be secured from Dr. John H. Miller, Chairman, 816 Villa Ridge Road, Falls Church.

Dr. Richard H. Egdahl,

Professor of Surgery and a member of the team working in the organ transplant field at the Medical College of Virginia, has been named chief of surgery at Boston University Medical Center. He will assume his new duties on July 1st.

Symposium on Cardiovascular Disease.

The Tidewater Heart Association will sponsor its fifth annual symposium on March 11th at the Golden Triangle Hotel, Norfolk. The program will be as follows: The Current Status of Microvascular Surgery by Dr. Julius H. Jacobson, II, New York; Lesions of the Coronary Circulation Amenable to Surgery by Dr. David C. Sabiston, Jr., Baltimore; Subtle Signs of Congestive Heart Failure by Dr. Bruce Logue, Atlanta; The Practical Differentiation between Ventricular and Supraventricular Dysrhythmias by Dr. Harold D. Levine, Boston; and Renal Homotransplantation in Man by Dr. David M. Hume, Richmond. There will also be panel discussions.

American College of Physicians.

Twelve Virginia physicians were recently designated as Fellows and Associates of the College. They are: Fellows—Drs. Joseph P. Whittle, Colonial Heights; Jason E. McClellan, Newport News; Dennis A. J. Morey, Richmond; George J. Carroll, Suffolk; and George L. Fischer, Clifton Forge. As Associates—Drs. Robert G. Bullock and LeRoy G. Jones, Arlington; Daniel N. Mohler, Charlottesville; William D. Lewis, Martinsville; and William S. Dingleline, Philip Frederick, Jr., and Henry P. Mauck, Jr., Richmond.

Psychiatry Residence

For private practitioners who have had a minimum of four years practice time, armed forces time or residency training other than psychiatry. Full approved program for three years; adults and children; inpatients and outpatients; neurotics and psychotics, al-

coholics and criminals. Adequate clinical supervision and full academic program. Full exposure to various treatment modalities from long-term psychotherapy to EST. Stipend \$12,000 per year. Write W. A. Sikes, M.D., Dorothea Dix Hospital, Raleigh, North Carolina. (*Adv.*)

Obstetrician-Gynecologist.

Group of nine physicians need an obstetrician-gynecologist. Prefer Board Certified or Board eligible physician. Write #75, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23211. (*Adv.*)

Wanted.

Physician for staff position in medical department of chemicals company with approximately 4,000 employees; liberal benefits; salary commensurate with experience and qualifications; State license required; age limit 65. Write E. Q. Hull, M.D., Medical Director, P.O. Box 8004, South Charleston 3, West Virginia. (*Adv.*)

Residents Wanted.

Two pulmonary disease residencies. 200 bed section, VA Hospital, Richmond. Af-

filiated with Medical College of Virginia. Offers training in diagnostic facilities, treatment acute and chronic pulmonary diseases including tuberculosis. Research available. U. S. citizenship required. \$5575 a year. Write Chief of Staff, VA Hospital, Richmond, Va. 23225. (*Adv.*)

Physician Wanted.

Staff psychiatrist, to assist three psychiatrists, 109 bed psychiatric service. Teaching affiliation with Medical College of Virginia. Excellent opportunity for teaching and research. Salary up to \$16,245, depending on qualifications. Many fringe benefits. Board diplomate or board eligible and licensed any state required. Write chief of staff, VA Hospital, Richmond, Virginia 23225. (*Adv.*)

Wanted.

June 1 to 27, 1964, physician with Virginia license, in small general practice (no obstetrics), plus some part-time emergency room work in Washington, D. C. suburb. Write or phone Mrs. K. Thompson, Suite 307, Fairfax Medical Center, Fairfax, Virginia. Telephone 273-1660. (*Adv.*)

Obituaries

Dr. Charles Walter Thomas,

Floyd, died January 8th, at the age of eighty-seven. He was a graduate of the Medical College of Virginia in 1903. Dr. Thomas had practiced in Floyd, Patrick and Henry Counties for more than fifty years. He had been a member of The Medical Society of Virginia since 1903.

Dr. Thomas took a great interest in his Alma Mater having made a substantial bequest to be known as The Charles Walter Thomas Foundation for research on arthritis and allied diseases. The fund is to be administered by the College.

His wife survives him.

Dr. Frank Cushing Pratt,

Retired physician and former dean of Fredericksburg medical practice, died January 22nd. He was eighty-one years of age and a graduate of the Medical College of Virginia in 1907. Dr. Pratt practiced in Fredericksburg for forty-one years before retiring in 1949. The Pratt Clinic and the Frank C. Pratt chapter of the Virginia Association for Mental Health were named for him in tribute to his long years of medical service. He was a former member of the State Hospital Board. Dr. Pratt had served as president of the Fredericksburg Medical Society and had been an active member of

The Medical Society of Virginia for fifty-three years.

His wife survives him.

Dr. Thomas Henry Daniel,

A former medical missionary to Korea and physician in Charlottesville for many years, died January 29th, at the age of eighty-four. He received his medical degree from the University of Virginia in 1902. Following his internship, Dr. Daniel served as a medical missionary in Korea from 1904 to 1917. He then returned to Charlottesville for private practice. Dr. Daniel was chairman of the staff at Martha Jefferson Hospital for several years and was a charter member of the Rotary Club. He was a life member of the Albemarle County Medical Society and a fifty year member of The Medical Society of Virginia.

His wife, three sons and three daughters survive him. One son is Dr. Frank D. Daniel, also of Charlottesville.

Dr. Louis Perlin,

Richmond, died January 23rd, having been in ill health for several years. He was sixty-five years of age and a graduate of the Medical College of Virginia in 1923. During World War II, Dr. Perlin did volunteer work with underprivileged children and he was one of the first staff doctors of the Beth Sholom Home of Virginia. He had been a member of The Medical Society of Virginia for forty years.

His wife, a son and a daughter survive him.

Dr. Hartmut Werner Doerwaldt,

Stephens City, died January 16th. He was thirty-six years of age and a native of Berlin, Germany. Dr. Doerwaldt received his medical education in Germany and was licensed to practice in Virginia in 1960. He was a member of The Medical Society of Virginia.

His wife and three children survive him.

Dr. Wellford

The unexpected death of Dr. Beverley Randolph Wellford, on the fifth of September, after a relatively short illness, saddened our entire community and brought to an untimely close the career of one of Richmond's outstanding physicians.

The name of Wellford has been synonymous with talented and scholarly physicians in Virginia for nearly two centuries. The first by this name to practice in this country came to Fredericksburg immediately after the close of the American Revolution. He was the son of a Scottish physician and had previously served as surgeon in the British Army. Two of his sons became physicians and one, Beverley Randolph Wellford the first, moved to Richmond about 1850 in order to join the faculty of the Medical College of Virginia. During the next few years he had the double distinction of becoming president of The Medical Society of Virginia and the American Medical Association. The latter honor has been shared by only one other Richmonder. This Dr. Wellford, in turn, had four physician sons, one of whom, Armistead Nelson Wellford became the grandfather of our Beverley R. Wellford.

Dr. Wellford was born in Richmond on October 31, 1893. He was educated at the Episcopal High School in Alexandria and the University of Virginia, where he received his undergraduate and medical training. While at the University he was a member of the Deke fraternity and the super-secret Seven Society. He was graduated in medicine in 1917 and entering the United States Army, he saw duty in France and returned with the rank of Captain. The next few years were spent in New York where he was a Resident Surgeon at the New York Eye and Ear Infirmary. After a short association with Dr. Stuart Craig, he returned to Richmond in 1923 and this past fall he rounded out full forty years of practice in this city. He was a diplomate of the American Board of Otolaryngology and took an active part in the establishment of the Richmond Eye Hospital which he served as president in 1956 and 1957. He held a similar office in the Richmond Ear, Nose and Throat Society. Dr. Wellford's death occurred a few months after he had completed a three-year term as president of the Virginia Historical Society where he had succeeded another Academy member, Dr. Wyndham B. Blanton.

For each of these offices he virtually had to be drafted, for he was essentially a most retiring person who shunned the presiding chair and steadfastly refused the Chairmanship of the Section of the History of Medicine and the Presidency of the Richmond Academy of Medicine. He was, however, for many years a conscientious member of the Library Committee and he participated in all the activities of the History Section. He was the final authority on

all matters pertaining to the library of the Academy.

Dr. Wellford's interests had many facets. He was foremost a dedicated physician who practiced his specialty primarily as a means of service to his fellow-man.

His knowledge of Virginia history and especially that which pertained to the Confederacy was broad and detailed and surpassed by few authorities on this subject. His collections in various fields of Virginiana were outstanding. Several years ago he presented his collection of Confederate currency and bonds to the Virginia Historical Society. It was reputed to be one of the outstanding two or three collections of this type in this country. The two display cases in the north end of the East Room on the ground floor of this building contain what is undoubtedly the most extensive collection of Confederate medical imprints in existence. They were assembled by Dr. Wellford and all of them belonged to him. His auto license plates were appropriately numbered 1861 and 1865.

While he made no ostentatious display of his religious beliefs, he was a man of deep faith who served for many years as vestryman and warden of St. Paul's church. He was a loyal friend and an excellent companion. His sense of humor was quiet but ever present. He typified the Virginia physician at his best.

He was fortunate in maintaining his enthusiasm and zest for life to the very onset of his brief illness. We shall remember him by his ready, quizzical, warm smile, his tall slender active figure and the youthful angle with which he wore his hat, and not as one who lacked but a month of having reached the proverbial three score years and ten.

. . . "Age had not withered him nor the years condemned". . .

AND SO, THEREFORE, BE IT RESOLVED by the Richmond Academy of Medicine that this organization has sustained a great loss in the death of Dr. Wellford and that our deepest sympathy be conveyed to his family, and

BE IT THEREFORE RESOLVED that copies of these resolutions be incorporated in the minutes of the Richmond Academy of Medicine and forwarded to the Virginia Medical Monthly.

EDWIN D. VAUGHAN, M.D.

E. U. WALLERSTEIN, M.D.

HARRY J. WARTHEN, JR., M.D., *Chairman*

Dr. Via.

The death of Dr. Carey E. Via on September 29, 1963, brought to a close a long and useful medical career. He was eighty years of age and fifty-eight of these years had been devoted to medicine, fifty of them in Norfolk. We deeply regret his loss as a colleague and friend, but surely the comfort and relief that he so graciously dispensed over that long period of time will remain as a memorial to his sterling character. As a physician he was thorough, conscientious and sympathetic, and as a friend cheerful, loyal, and good company.

He was a member and former deacon of the Freemason Street Baptist Church, a fifty year member of Ruth Lodge No. 89 A.F.A.M., a member of Norfolk Consistory, Scottish Rite Bodies, Norfolk United Royal Arch Chapter, Grice Commander 16, Knights Templar and the Shrine. He was an active member of the American Medical Association, The Medical Society of Virginia, and the Norfolk County Medical Society.

He attended public schools in Newport News, and graduated from the Medical College of Virginia in 1902, after which he practiced in Gloucester County for three years. He studied Eye, Ear Nose, and Throat at the Universities of Vienna and Berlin in 1909 and began the practice of this specialty in Norfolk shortly thereafter, continuing in this practice until July 1963. During this time he maintained a large office and served as consultant in his specialty for the Norfolk Shipbuilding and Drydock Company.

WHEREAS, we, the members of the Norfolk County Medical Society unite with his many grateful patients and friends to share with his family in their bereavement and regret the loss of such a valuable physician and citizen.

BE IT RESOLVED by the Norfolk County Medical Society that we convey to his family our sincere sympathy and deep respect for his memory and that this evidence of our high regard for him be recorded in the minutes.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to his family and a copy to the Virginia Medical Monthly.

A. D. MORGAN

C. LYDON HARRELL

C. C. SMITH, *Chairman*

Guest Editorial

Deficit Spending—A Moral Issue

IN THE PAST THIRTY YEARS our national debt has soared from less than \$40 billion to nearly \$300 billion. This fiscal year, for the 26th time in 30 years the government has lived beyond its income.

There are times when individuals and corporations borrow money to meet emergencies and expand their facilities for increasing business, but no individual or business group can continue to spend more than it makes and not expect some day to come face to face with the inexorable law of economics which brings disaster upon those who evade it.

America has been spending beyond her income to grant more favors and provide more services for her citizens. Much of this has had a political motivation as all will admit. That carelessness in the use of federal funds has had its part no one will deny.

The basic question is whether it is morally right to operate a government on economic principles which are unsound? Private initiative and control has built in it the restraints of both law and common sense. Shall the government operate otherwise?

One illustration of the difference between governmental services and those controlled privately is indicated by the fact that it costs about 50 per cent more to maintain a Peace Corpsman than a foreign missionary of the average major denomination.

The question may be raised as to whether "deficit spending" is actually a "moral" issue. The distinction must be made between emergency deficit spending which individuals and nations may be required to enter into because of sickness, war or other national emergencies.

On the other hand, when deficit spending becomes *a way of life* for a nation or for an individual, we believe it *is* a moral issue. Where the nation is concerned, we are already spending the money of our children and grandchildren and the end is not in sight.

Access to the public treasury seems to carry with it only too often a corresponding sense of economic irresponsibility. Furthermore, we often wonder where some "economic experts" acquire their theories about money. Can *anyone* who has not faced up to the hard realities of earning a living and meeting payrolls really qualify as an economic theorist?

And one final question: Should our national solvency be jeopardized by politicians on the one hand and irresponsible theorists on the other? Therein lies a moral issue our government for thirty years has failed to face.

Montreat, North Carolina

L. NELSON BELL, M.D.

Reprinted from the *Presbyterian Journal*, December 5, 1962.

Disorders of the Foot in Childhood

A. R. SHANDS, JR., M.D.
Wilmington, Delaware

The disorders of the foot in children are usually first seen by the pediatrician or the physician in general practice. A knowledge of these disorders and their treatment is necessary for proper handling.

NOTHING can be of more importance to the parents of a growing child than the appearance of their child's feet. These can be constantly seen, and if there is something which appears to be wrong, it is a daily reminder to these parents that a physician should be consulted. Since few parents know what constitutes normal development in the foot of the growing child, children whose feet may be perfectly normal very frequently are taken to a family physician or to a crippled children's clinic for advice. This paper is being presented because of the author's concern for what the general practitioner and pediatrician should know about the foot of the child in order that they may not only more intelligently explain the foot condition to the over-anxious parents, but also that they may know how to recognize the conditions of serious import which should be referred to an orthopaedic surgeon.

The question should first be asked: "What is the incidence of children brought to a crippled children's clinic with a foot disorder?"

Several years ago a review was made of the records of 4,230 children¹ who had been examined over a thirteen-year period in the outpatient clinic of the Alfred I. duPont Institute, a crippled children's hospital in Wilmington, Delaware. Of this number, 29.1 per cent (1,232) had a diagnosis related to the foot. Over two-thirds (850) had sufficient symptomatology to warrant roentgenograms. Of this 850, 27.1 per cent (231) had significant roentgenologic findings, or 18.7 per cent of 1,232 children. The average age of those children with significant findings was three years nine months; 55 per cent were boys and 45 per cent were girls.

Next, what are the diagnoses of the 1,232 patients? Pes planus, or flexible flat foot, with 63.6 per cent, was the first in frequency. Next was metatarsus varus with 17.1 per cent, and the next, clubfoot with 10.7 per cent. These three conditions constituted 91.4 per cent of all the foot abnormalities.

The characteristics of normal foot development must be appreciated in order to satisfactorily recognize abnormalities. The infant when taking his first steps separates the legs which go into moderate external rotation; and if he is a chubby child, the long arch is perceptibly flattened and the foot goes into a pronation, a disturbing appearance to many parents. As the leg muscles develop and increase in strength, the pronation decreases and a long arch begins to develop. When the infant is two years old, there may be well-formed long arches. On the other hand, due to delayed muscle development, especially in the overweight child, the pronated flat foot may persist to an older age. Associated with this development there may be a genu varum, or bow leg. When the child is two years of age, the

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bow leg deformity usually disappears and, then, during the next several months there may even develop a slight genu valgum, or knock knee. If the knock knee becomes marked there is likely to be a flattening of the long arches. The legs of nearly all children are straight by five years of age provided a vitamin D resistant rickets or some other condition affecting epiphyseal growth is not present.

For the most common condition in the child's foot, the flexible flat foot, special orthopaedic shoes with an inside wedge on the sole and heel are usually indicated. The flattening of the long arch is most evident on weight bearing. If the child is over six years of age and cooperative, exercises to strengthen the muscles supporting the long arch may be effective. Sometimes special long arch supports of felt or rubber, or even a light plastic material, may be indicated.

As the child begins to walk there may be a toeing in or toeing out. This may be only present in the first few weeks and rapidly disappears. However, if it persists it may be due to an abnormal torsion of the tibia and less often due to a torsion of the femur. Sometimes a toeing in may be due to a contraction of the internal rotator muscles of the hip. Torsion of the femur may be anterior when it is called anteversion or posterior when it is called retroversion. A child who persists in walking with the toes turned in, with the lines of the tibia straight, is very often found to have an increase in the normal anteversion; whereas a child who walks with his feet turned out, with straight tibias, may have a decrease in the normal anteversion. The author and his coworkers made this observation² in rather complete hip anteversion studies several years ago, and since this time it has been confirmed by many observers. Sometimes, with the use of long rotator straps, the toeing in or out may be corrected. Very seldom is a rotation osteotomy of the tibia or femur indicated to correct the deformity.

Another common cause of toeing in is

metatarsus varus. This is usually a congenital deformity and may be bilateral or unilateral. Some think the incidence of metatarsus varus is increasing. It is an adduction of the forefoot at the tarso-metatarsal joints. It may be a residual deformity of an incompletely corrected congenital talipes equinovarus (clubfoot). The treatment is one of gentle manipulation, casts, and corrective shoes. When the casts are removed, Denis Browne splints may be worn at night to maintain the corrected position. For the more persistent case there are soft tissue and bony operations which can be done through the metatarsal cuneiform area of the foot. Continued observation after all forms of treatment is most important.

In spite of the constant emphasis on the importance of early correction of clubfeet, children are still brought into crippled children's clinics with the parents saying: "My doctor told me to wait until my baby was older and larger before doing anything about his crooked feet." The recognition of the clubfoot, with the foot turned in and down, never presents a problem, but the longer treatment is delayed, the more difficult is the correction. Treatment should be started at birth. If immediate steps are taken to correct the deformity in the most common types of clubfoot, the correction is seldom difficult. Gentle manipulation, stretching, and holding in the corrected position in plaster is the best form of early treatment; however, in the very young baby a great deal can be done with properly applied adhesive strapping. Once the feet have been corrected they must be held in this position and meticulously watched for many years to be sure that a recurrence of the deformity does not take place. A correction, once obtained, can be usually maintained with special, single bar night splints, with Denis Browne splints or with clubfoot shoes. As soon as weight bearing is allowed, if the feet have been completely corrected, the problem becomes easier. It is most important that there be continued

observation until the child is several years old and there is no tendency towards a recurrence. If there is a recurrence, the treatment is the same as that initially carried out. If the tendo Achillis is contracted and is pulling the os calcis up and in, this may be lengthened to obtain a more satisfactory correction. In the older child wedge casts with forceful manipulation may be tried, but on account of the damage to the joints this may result in a great deal of stiffness; however it is sometimes satisfactory. Surgery of the bony structures is only indicated in the older recurrent clubfoot, i.e., in the child ten years or more of age.

The foot which is held in a firmly fixed everted position is a serious condition and is usually a spastic flat foot. Eleven cases were found in our series. In the early stages the foot is usually painful, the child becomes fatigued very quickly, and there is tenderness and sharp pain on attempting to invert the foot. There may be spasm in the peroneal muscles. Some have believed that a focus of infection is the cause of the spastic muscles. The name "tonsil foot" has been used in the past because of the frequency of this type of foot associated with infected tonsils. In recent years it has been demonstrated by roentgenograms that many of these everted rigid feet are due to a congenital bony anomaly between the os calcis and the talus or the os calcis and the navicular, such as a complete or incomplete calcaneonavicular bar, or a complete or partial union of the talus and the os calcis by a medial bridge of bone. The initial treatment of a spastic flat foot should always be rest, best obtained through the use of plaster casts. In applying the cast the foot should be inverted as much as possible. When the cast is removed, massage and corrective foot exercises should be given. When weight bearing is started, longitudinal arch supports should be used in comfortable but snugly fitting shoes. If the pain cannot be relieved in this way, an arthrodesis of the subastragalar and medial tarsal joints should be considered. Resection of the bony anomalies in

these feet is seldom followed by relief of symptoms.

Occasionally, there may be prominence of an accessory navicular bone with pain and weakness of the longitudinal arch. Excision of the accessory bone may be indicated with a transplantation of the attached posterior tibial tendon well beneath the navicular.

Sometimes, in an extreme flat foot with a marked medial convex angulation, the talus may be found by roentgenogram to be in a vertical position. This is of congenital origin and is commonly spoken of as a "vertical talus." Treatment at best is not very satisfactory; it should be started early and consist first of an attempt to correct the deformity with repeated molded casts. If unsuccessful, an operative procedure to free the talus by dissecting the soft tissues about its head and attempting to replace it to its normal position may be indicated. In the older and more severe case a triple arthrodesis to stabilize the foot and at the same time to correct the deformity is indicated.

Occasionally, there will be found a short Achilles tendon, especially in the weak or everted foot which has led to foot strain. The pain can very often be relieved by raising the heel of the shoe. If the shortening of the tendon is marked, it should be stretched with the use of wedge casts and special exercises. Occasionally, a tendon lengthening may be indicated.

The most serious condition of unknown etiology, usually coming on around puberty, is the clawfoot deformity. In our series there were 15 cases. The child usually complains of early fatigue with exercise, the long arch gradually becomes higher (pes cavus), the toes become dorsally contracted giving a clawing appearance and callouses develop under the metatarsal heads and corns over the dorsum of the contracted toes at the proximal interphalangeal joints. Along with this there is a contraction of the plantar fascia and Achilles tendon. The anterior half of the foot may be drawn downward and sometimes inward, and a large callous may form under the depressed head of the first

metatarsal. These changes are slow and gradual but progressive. Many years ago Newton Schaffer, of New York, spoke of this type of foot as a "non-deforming clubfoot". It was thought at one time to be due to a spinal cord abnormality but this has never been proved. The treatment of the milder case consists of stretching the plantar fascia and the wearing of arch supports in proper shoes. In the case of moderate degree a plantar fasciotomy and stretching under anesthesia may be indicated and, occasionally, a transplantation of one or more of the extensor tendons of the toes to the distal portion of the metatarsal bones may be done. In the more severe case the only treatment which will be of permanent value is a dorsal wedge osteotomy combined with a subastragalar arthrodesis. The discouraging part is that following what may seem to be good and adequate treatment in the mild to moderate case with improvement, the condition recurs. The fitting of proper shoes is most important after all treatment.

A gradually developing clawfoot may be the first indication of a progressive peroneal muscular atrophy (Charcot-Marie-Tooth Disease). This comes on more often in boys between five and ten years of age, is usually bilateral, and is always progressive. The orthopaedic treatment is essentially the same as that of an idiopathic clawfoot.

The most common conditions involving the toes are bunions, hammer toes, and overlapping toes. A bunion, or hallux valgus, in a child is usually due to the wearing of short shoes and tight stockings or socks, of which the child and parents are not always aware. It is an abduction deformity at the first metatarsal phalangeal joint. In the mild case stretching of the abducted joint into adduction and the wearing of a night splint may improve the deformity. Occasionally, an open corrective operation is necessary.

The hammer, or cock-up, toe which may have a painful dorsal callous is usually due to the toe being pushed back by a short shoe. The stretching of this toe and the wearing of a splint with a wide, long shoe may result

in improvement. If the condition cannot be completely or partially corrected, it may be necessary to arthrodesis the proximal interphalangeal joint in extension; this is not the operation of choice in a child if it can be avoided.

The overlapping or displacement of a toe or toes is sometimes seen and, again, is most often due to the wearing of tight, narrow, poorly fitted shoes. On the dorsal surface of the overlapping toe may be a very painful corn. The overlapping of the fifth toe on the fourth is the most common place for this to occur. Manipulation and splinting of the toe in the corrected position may gradually correct the deformity. If the condition is severe a tenotomy or transplantation of the extensor tendon may be indicated and, finally, if the condition cannot be corrected, resection of the proximal phalanx may be done.

The three most common points in the foot for an osteochondritis to occur are: 1) the navicular, 2) the os calcis, and 3) the distal end of a metatarsal. When found in the navicular, it is called Köhler's Disease. It usually appears in the fifth to sixth year of age, is unilateral, and is evidenced first by a limp and pain through the inner side of the foot on weight bearing. The roentgenogram shows the navicular to be small, dense, of irregular outline, and sometimes fragmented. The etiology is not known. There is tenderness and slight thickening over the navicular. The treatment is one of rest, preferably in a plaster cast for six to ten weeks. The results are usually very satisfactory with the roentgenologic appearance of the navicular gradually becoming normal.

The second type of osteochondritis is in the distal end of a metatarsal, more often in the second, called Freiberg's Disease. It is an uncommon condition, usually in adolescent children, and may be due to trauma. Limp and pain are the first symptoms. In the roentgenogram it has the appearance of a localized aseptic necrosis. The treatment is one of rest, but, occasionally, it may be necessary to resect the excess bone over the

metatarsal head or to excise the whole irregular head.

The third type of osteochondritis is the calcaneal apophysitis, or epiphysitis. It was found in seven cases in our series. It occurs most often in boys between nine and fourteen years of age and is manifested by soreness, tenderness, and pain about the heel; there may be some swelling. The roentgenogram shows the epiphysis to be irregular or segmented with areas of increased density; however many roentgenograms of the os calcis in painless feet show exactly the same changes. The affection is best treated by rest and relief of strain and pressure. The heel of the shoe may be cut out and should be elevated one-half inch.

Nothing has been specifically said about the fitting of the shoes in a growing child. This is extremely important. The shoes should be always wide enough, strong enough, and of sufficient length to allow for growth. Many later difficulties can be avoided if sufficient care is given to the child

always wearing a well-fitting and comfortable shoe.

What has been given in this discussion represents the most common disorders, and some less common, found in a child's foot. Every physician, particularly the physician in general practice and the pediatrician, should know what these disorders are and what can be done for them in order that he may give a simple interpretation to the parents and give the child the best possible opportunity for a complete recovery. This is his responsibility.

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Quality of Testing New Drugs

The medical profession must assume a degree of responsibility for informing itself about laws and regulations under which it must function, about special problems arising from special drugs, and about the existence and potential value of new drugs. Professional and scientific societies through appropriate committees can play a significant role in accomplishing these objectives. Moreover, such committees might well address themselves to the important problem of the quality of clinical testing of drugs in various clinical fields of medicine.—Thomas B. Turner, M.D., Dean, Johns Hopkins University School of Medicine, at Conference of Professional and Scientific Societies, Chicago, Illinois, June 27, 1963.

Electrical Stimulation of the Heart for Stokes-Adams Disease

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The place of the internal pacemaker in the treatment of Stokes-Adams disease is well established. This paper discusses this apparatus and its uses and reports results in eighteen patients.

STOKES-ADAMS DISEASE consists of the unpredictable occurrence of ventricular rhythm disturbances secondary to atrioventricular block producing either a marked slowing or a temporary stoppage of the heart with secondary cerebral ischemia manifested by dizziness, unconsciousness or

convulsions. Death not infrequently occurs. The heart block may be transient, permanent, or complete. Emergency resuscitation from these procedures is well recognized and can be accomplished either by external cardiac massage, external electric stimulation if a suitable pacemaker is immediately available, and external electric counter shot. The major problem with this disease is that these seizures frequently occur at an unpredictable time and when medical attention is unavailable. The natural history of the disease is quite characteristic in that once the seizures have begun the probability of continued and progressively more severe attacks can be predicted. This paper deals with the replacement of an unreliable intrinsic ventricular pacemaker with a reliable electric one that drives the ventri-

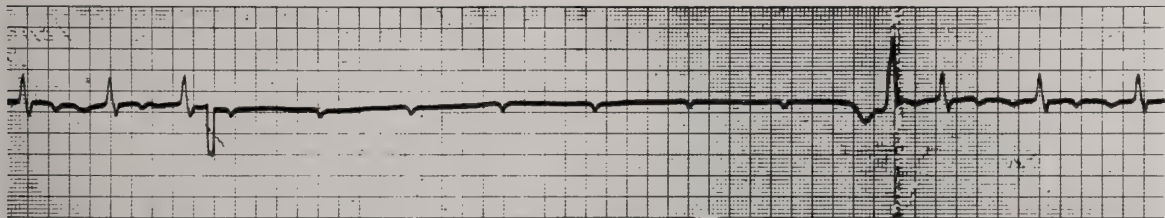


Fig. 1. 1st degree A-V block with long lead II and complete ventricular asystoli.
E. C. G. taken during "black out" episode.

TABLE I

Total Cases	Men	Women
STOKES-ADAMS ATTACKS	12	4
Average age of time of pacemaker insertion	64.4	58.0
Youngest	59	44
Oldest	72	83
Duration of attacks prior to pacemaker	1.2 years	1.8 years
HEART BLOCK	2	
Age at insertion of pacemaker	64	
	61	

cles at a standard rate and assures complete prevention of asystole, and, therefore, of cardiac arrest or further seizures. The impossibility of continued electrical stimulation by a large pacemaker has led to the development of a small transistorized pacemaker which can be implanted to avoid the complications of external wires, and with a battery life of approximately five years.

This paper deals with and explains the

gain from the application of an internal pacemaker in sixteen patients with Stokes-Adams disease and two patients with heart block and clinically significant bradycardia.

Experimental Experience

The development of the internal pacemaker has occurred over a six-year period through the efforts and study of electrical engineers and clinicians alike. A fundamental problem which has been mastered is

TABLE II

Longest pacemaker insertion still active	Men 4 years
Number of deaths since pacemaker insertion	2

the rise in the electrical threshold for myocardial stimulation. During the course of this study electrodes were experimentally placed in dogs within the ventricular cavities, in the ventricular myocardium, on the epicardium and pericardium, over various areas of the heart. Materials used for these electrodes ranged from tantalum, stainless steel, vitallium, conductive plastic, copper, platinized platinum and gold. In all cases platinum seemed to produce the best results. It has been found that the initial thresholds for stimulation depended on electrode location and were best when sutured directly into the ventricular myocardium. The point

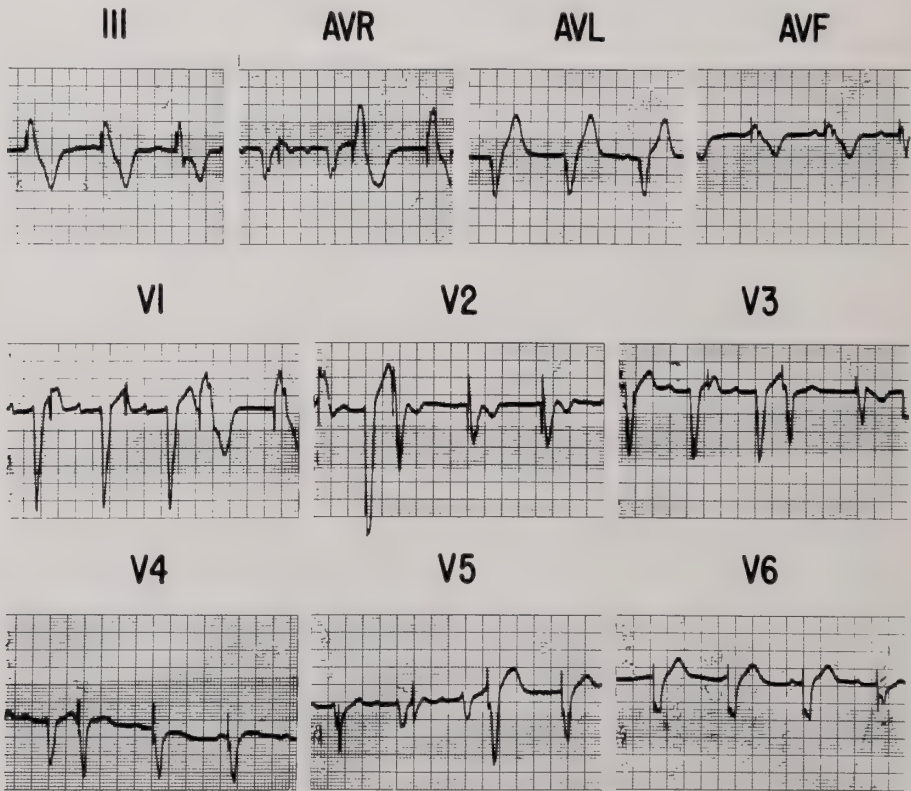


Fig. 2. Pacemaker control of A-V block with occasional refractory response.

TABLE III

Complications following pacemaker insertion—Total	No.	4
1—External pacemaker type with indifferent chest wall wire electrode coming loose. Now re-operated and converted to internal pacemaker.	1	
2—Infected around external wires in chest wall in early external pacemaker	1	
3—Myocardial electrode wires coming loose or breaking	2	

electrode amperage required for stimulation in this area is as low as 0.1 and 0.3 volt. The use of unipolar as compared with bipolar myocardial electrodes in close adjunctive position has been compared and the bipolar leads produce the best stimulation at lower thresholds than do unipolar electrodes. However, unipolar stimulation is satisfac-

tory and this is of clinical interest in case one of the myocardial wires becomes unattached or broken. Another major problem now conquered has been the connections from the electrodes to the pacemaker. Exposed platinum does not have satisfactory long-term results, and therefore to avoid the occasional foreign body reactions, all electrical parts are embedded in a nonconductive epoxy resin enclosed in a steel case coated with Teflon, and more recently in a smoothly finished case of molded epoxy resin. Before implantation the pacemaker as well as the wires are sterilized by immersion in Beta-Propiolactone for twenty minutes at

swedged to the end of the electrode wires. Approximately two inches from the swedged needle there is a one to two centimeter area of platinum which is left bare and this is the contact with the ventricular myocardium. The present pacemaker electrode unit was designed by the Electrodyne Company in Norwood, Massachusetts, and has the following measurements, 6.5 x 6.0 x 1.7 cms. with a weight of 170 gms. This unit has a fixed rate of approximately 72 which is preset at the factory and delivers a monophasic impulse 2 mil. seconds in duration, 8 volts in intensity, and approximately 15 mil. amperes in current flow

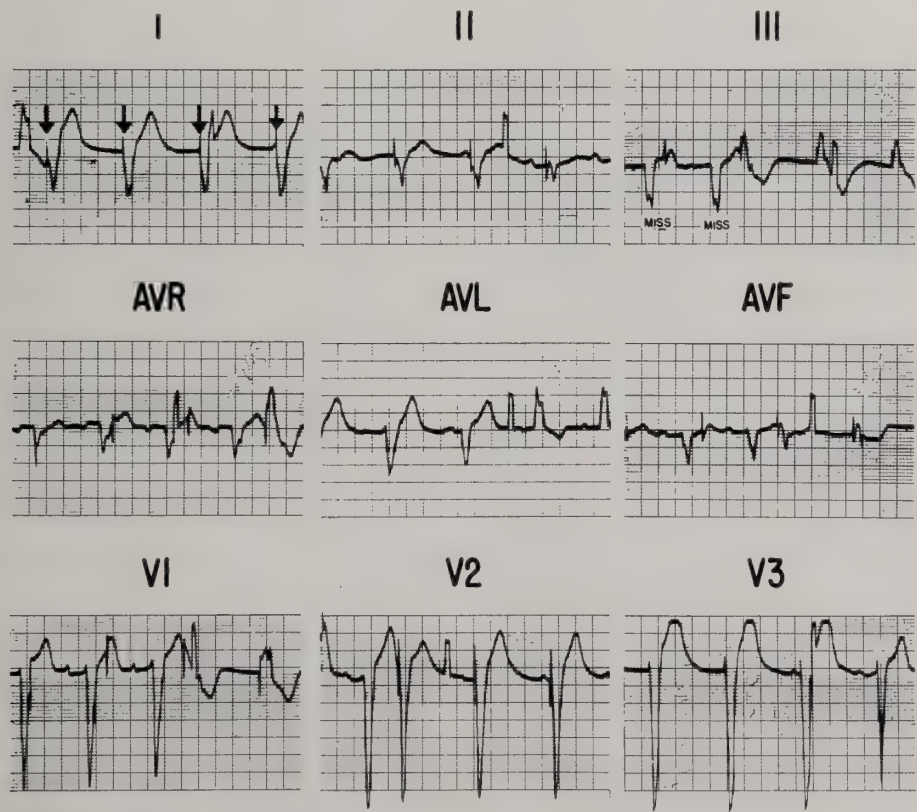


Fig. 3. This shows pacemaker initiates most beats. Numerous spontaneous beats and pacemaker fails when it hits in refractory period of these. Rate about 70.

low temperature. Great care is used in handling this chemical because of its irritant and necrotizing properties. The instruments are then rinsed thoroughly in a sterile saline solution, Isopropyl alcohol, and again in saline solution. The platinum wires are contained in a silastic tube with a fine needle

across the usual resistance (500 ohms), between the electrodes. The batteries consist of 6 low voltage cells, each rated at 1,000 mil. amp. hours and estimated to last approximately five years when the rate of discharge is 72 per minute. As the batteries begin to fail the rate of discharge will slow

and the current will fall with poor ventricular response to the stimuli. It is recommended by the factory that batteries be changed at approximately 4½ years intervals. The method of battery changes consists of a cutaneous incision without a thoracotomy being necessary since the myocardial

that those patients having proven Stokes-Adams attacks will continue to have progressive difficulty with severe impairment of their usual activities and possibly a fatal episode. It seems logical, therefore, to replace the inadequate intrinsic pacemaker with a reliable electrical pacemaker since the

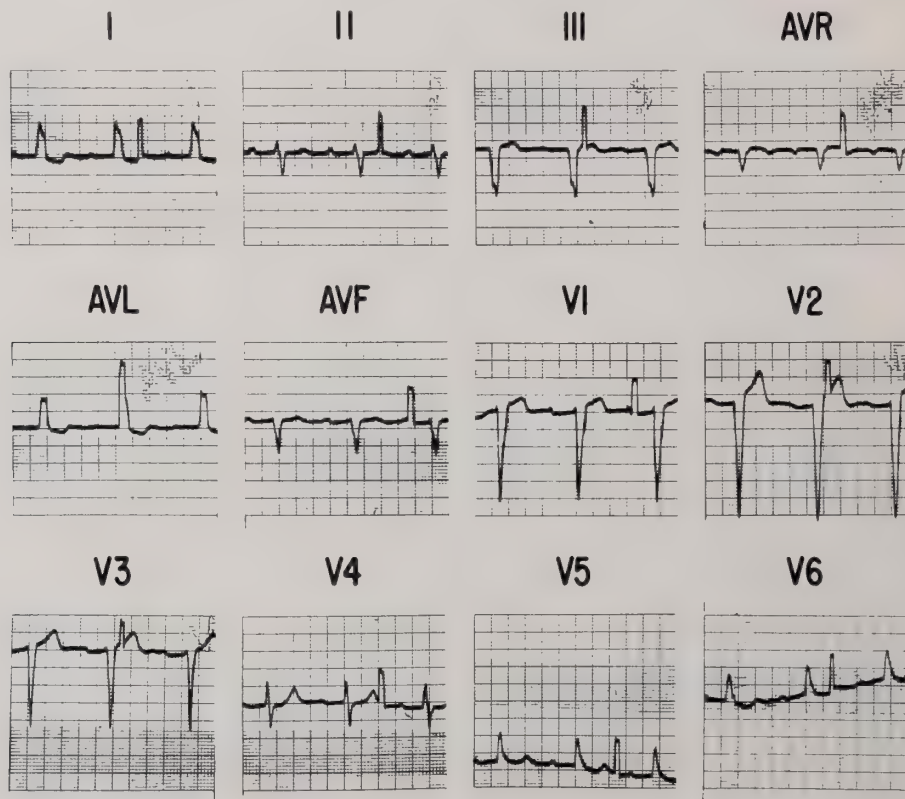


Fig. 4. This shows rate of 70 with numerous P waves that are ineffective. Pacemaker initiates most beats but moderate number of spontaneous beats.

electrodes do not require removal. A new battery is simply spliced to the old myocardial electrodes in a rather simple fashion and coated with a medical adhesive tape produced by the Dow Corporation of Midland, Michigan. The other type of pacemaker is manufactured by Medtronic Corporation, Minneapolis, Minnesota, and differs from the Electrodyne unit in that the myocardial wires are a continuous coil made of iridium and platinum.

Indications for Pacemaker Insertion

The statistical evidence strongly indicates

procedure is standardized, safe, and carries very little risk of morbidity.

Heart block per se is not necessarily an indication for pacemaker insertion unless the rate falls persistently to dangerous levels. A rate of 40 ventricular beats in one patient may be tolerated satisfactorily, whereas another patient will not maintain an adequate coronary or cerebral circulation at this rate, and will suffer permanent impairment of his leisure as well as business activities. Such a patient who cannot well compensate is a candidate for electrical pacemaker insertion.

A patient presenting with Stokes-Adams attacks must have 1. ECG evidence of the

A-V block, 2. proven episodes of ventricular asystoli and 3. lack of response to isuprel in a medical attempt to control the block before consideration is given to pacemaker insertion. However, once it has been established that the above criteria are present, then strong consideration must be given to the procedure of pacemaker insertion.

Surgical Technique of Internal Pacemaker Implantation

The procedure of pacemaker implantation depends upon a simple exposure of the left ventricular myocardium which is best done through a small left submammary intercostal incision. The patient is placed in the left oblique position with a sandbag under the left hip and the left pectoral

be taken not to place the electrodes near the phrenic nerve since phrenic stimulation can be produced if this is not avoided. Intractable hiccups may inadvertently be produced.

The two electrode wires with needles swaged on the ends are then sutured to the ventricular myocardium in a longitudinal fashion to avoid involvement of the coronary vessels. These electrodes are placed approximately one to two cm. apart for best myocardial stimulation. The plastic covered wires are drawn through the myocardium until the bare platinum itself is imbedded in the myocardium. The needle is then cut off the wire, the wire bent at right angles and sutured to the myocardium with atraumatic 5-0 arterial silk. This prevents the wires from pulling out of the myocardium.



Fig. 5. Sub-pectoral pacemaker in position. 64-year-old white male.



Fig. 6. Sub-pectoral pacemaker in position. Eighty-two-year-old white female.

region therefore elevated. The external pacemaker is attached to the patient in case a cardiac arrest occurs. The pulse and electrocardiogram are monitored with an oscillograph throughout the procedure. A point on the pericardium approximately one inch anterior to the phrenic nerve is selected, the pericardium opened and the ventricular myocardium thereby exposed. Care must

The pericardial opening is loosely closed, several coils of the wire are left within the chest cavity and the lung is expanded to see that there is no tension on the myocardial electrodes. Implantation of the battery unit itself can be performed either beneath the rectus muscle or more preferably under the pectoral muscle in the axilla. The electrode wires are pulled through the intercostal in-

cision and after placing a small chest catheter for drainage, the intercostal incision is closed using pericostal sutures of heavy braided silk and interrupted silk or catgut to the muscle layers. The battery unit is then placed under the pectoral muscle after a "pocket" is fashioned in this area by blunt dissection. Several sutures are taken from the pectoral muscle to the chest wall to hold the unit in position so that it will not slip. The skin is closed with interrupted silk sutures.

As soon as the myocardial electrodes are in position, and this usually takes less than fifteen minutes from the start of surgery, the heart immediately responds to its stimulation and begins to beat in a more satisfactory and regular fashion. This is immediately apparent at the time of operation.

The average time for hospitalization of these patients is approximately ten days. Recorded complications are wire breakage, pulling from the myocardium and battery failure. The general experience through the country during the past year has revealed that these complications are now at a minimum and battery failure has not recently been recorded.

In a series of eighteen patients the complications have fortunately been few in number but consist of two cases of electrode breakage or pull out at the myocardial level, one case of infection of the electrode wires in an external pacemaker with wires protruding from the chest wall, one incidence of probable battery failure responding to a new unit implantation.

Summary

The use of the internal electrical pacemaker is described and its results discussed. This procedure is a relatively minor surgical

encounter, carries a low stress response and is remarkably effective in curing Stokes-Adams attacks and significant heart block.

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Outpatient Anticoagulation

A Problem in Long-Term Management

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Long-term anticoagulation therapy is beneficial in certain diseases but out-patient management presents definite problems. Improved techniques for laboratory control are needed.

NUMEROUS INVESTIGATORS have reported favorably on the efficacy of long-term anticoagulation in both controlled and uncontrolled series.

Nichols, et al.,¹ have reported a mortality in coronary artery heart disease of 12 per cent. Of 1091 cases treated, 96 patients were treated for an impending infarct with six deaths or a mortality of 6.2 per cent; 735 cases, with a background of a single infarct, were treated for 1366 months with 73 deaths or a 10 per cent mortality; and 260 patients, with multiple infarcts, were treated for 1283 months with 52 deaths or a 20 per cent mortality. Of the 319 patients discontinuing treatment there were 90 deaths or a 28.2 per cent mortality. Twenty per cent of this mortality were cases proven to have died of heart disease.

The statistics of this particular series are elaborated in view of the nature of a large cooperative study. Further cooperative effort is necessary to evaluate statistically the therapeutic results of long-term therapy.

J. J. Nora's² series was comprised of 60 patients. Of these, 39 were carried for a minimum of 24 months and a maximum of 50 months with only one death not related

to heart disease. No myocardial infarctions occurred in the treated group, while in the untreated group of 26 patients 11 myocardial infarctions occurred with three deaths resulting.

Manchester³ also has reported on a series of cases followed from one to ten years in 712 patients with one or more myocardial infarctions, with controls. His results reveal a mortality of 7.8 per cent in the treated group as compared with a mortality of 42.5 per cent in the control group. His bleeding incidents were remarkably low compared to other long-term series.

In addition to the long-term management of coronary artery heart disease, other cardiovascular diagnoses indicate long-term anticoagulation:

1. Acute cerebro-vascular insufficiency.
2. Mitral stenosis, atrial fibrillation with systemic embolization.
3. Intermittent atrial fibrillation or atrial fibrillation of recent onset of various etiologies.
4. Leriche syndrome—due to slow and progressive occlusion at the bifurcation of the aorta.
5. Recurrent venous thrombosis.

The observations to be reported here were based on a group of 100 cases who were continued on anticoagulant therapy after a thrombo-embolic episode or a prodromal syndrome of impending thrombotic disease. The problems of the maintenance of long-term outpatient therapy will be stressed.

Methods and Materials

The age distribution of the 100 cases is demonstrated in Figure 1. Males constituted 70.3 per cent and females 29.7 per cent of

the total series. Only one patient in the entire group was a Negro.

The following clinical categories were included for therapy: (Cases may appear in more than one category.)

- 1. Cases of impending myocardial infarction
- 2. Cases continued on therapy after the first myocardial infarct
- 3. Cases continued on therapy after two or more myocardial infarctions
- 4. Cases continued on therapy in view of recurrent coronary insufficiency.
- 5. Cases of cerebro-vascular insufficiency or previous cerebral thrombosis
- 6. Two cases of Leriche syndrome were started on therapy but discontinued treatment after hemorrhagic manifestations occurred within two months of the onset of treatment. The other cases related to recurrent peripheral venous disease.

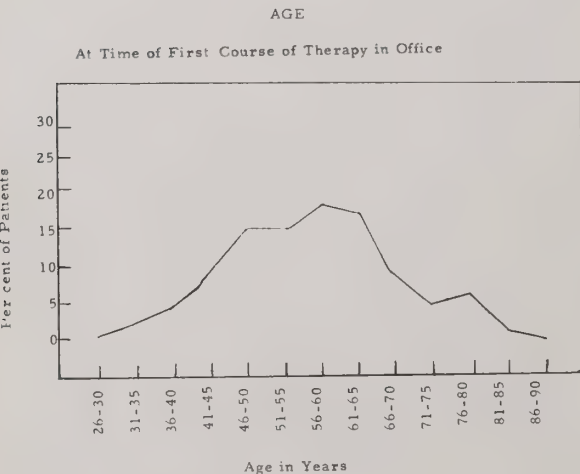


Fig. 1

In the earlier cases treated, bishydroxycoumarin (Dicumarol) was used in the usual initial dose of 300 mgm. the first day, 200 mgm. the second day, followed by a maintenance dose established on the basis of daily prothrombin times. Later in the series phenindione (Hedulin) was used in initial doses of 300 mgm. (divided into two equal doses at twelve hour intervals), followed by maintenance doses sufficient to maintain the

Quick one-stage prothrombin time at 2 to 2½ times the control time. Finally, warfarin sodium (Coumadin) was used in loading doses of 60-75 mgm. followed by a maintenance dose in thirty-six hours sufficient to maintain the prothrombin times in the range mentioned previously.

Observations

The duration of anticoagulant therapy in 100 cases was tabulated as follows:

Duration	Courses
Less than 1 week	0 0.0%
1 week	2 1.6%
2 weeks	8 5.7%
3 weeks	5 3.9%
4 weeks	14 10.9%
5 weeks	3 2.3%
6 weeks	11 8.7%
7 weeks	2 1.6%
8 weeks	12 9.3%
9 weeks	4 3.1%
10 weeks	2 1.6%
12 weeks	10 7.7%
13 weeks	3 2.3%
14 weeks	1 0.7%
16 weeks	4 3.1%
17 weeks	2 1.6%
19 weeks	1 0.7%
20 weeks	2 1.6%
24 weeks	1 0.7%
26 weeks	3 2.3%
29 weeks	1 0.7%
32 weeks	2 1.6%
35 weeks	1 0.7%
37 weeks	2 1.6%
42 weeks	1 0.7%
48 weeks	2 1.6%
52 weeks	2 1.6%
60 weeks	3 2.3%
62 weeks	2 1.6%
64 weeks	2 1.6%
68 weeks	2 1.6%
78 weeks	2 1.6%
81 weeks	1 0.7%
104 weeks	4 3.1%
116 weeks	1 0.7%
120 weeks	1 0.7%
124 weeks	1 0.7%
152 weeks	1 0.7%
168 weeks	2 1.6%
169 weeks	1 0.7%
185 weeks	1 0.7%
216 weeks	1 0.7%
220 weeks	1 0.7%
260 weeks	1 0.7%
270 weeks	1 0.7%

Each course of continuous therapy was

counted, and if a patient was subjected to more than one course of therapy, each was included as a separate course of treatment. The total number of weeks of therapy was 4604. The following classification of duration of therapy was utilized:

- 1. Short-term: 0-12 weeks—
77 courses—56.58%
- 2. Intermediate: 12-52 weeks—
29 courses—21.71%
- 3. Long-term: over 52 weeks—
29 courses—21.71%

It is obvious that for various reasons it was not possible to maintain prolonged anticoagulation in the majority of cases. The fac-

temporary discontinuance of therapy because of bleeding

- 4. Death of patients unrelated to cardiac disease

The maintenance doses of the various anticoagulants exhibited are graphed in Figures 2, 3 and 4.

AVERAGE MAINTENANCE DOSE
BISHYDROXYCOUMARIN (DICUMAROL)

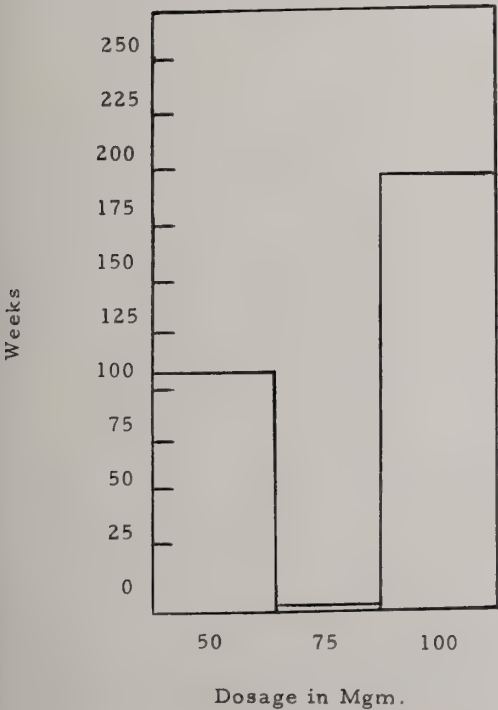


Fig. 2

tors involved in the discontinuance of therapy included:

- 1. Discontinuance of medical observation
- 2. Intolerance of therapy manifested by hemorrhagic manifestations
- 3. Terminal cardiac or thrombotic events in spite of anticoagulation or during

AVERAGE MAINTENANCE DOSE
PHENINDIONE (HEDULIN)

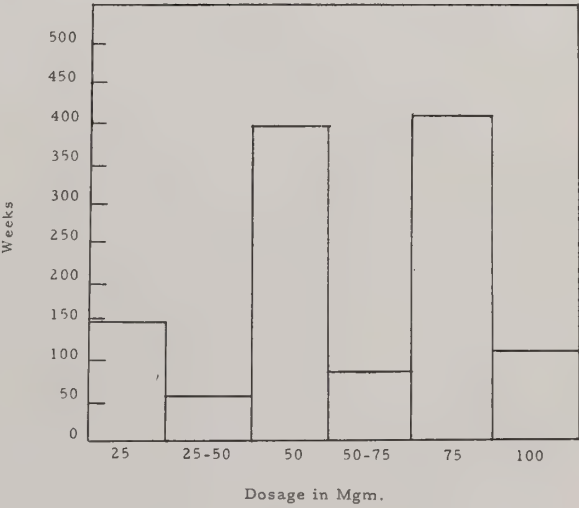


Fig. 3

AVERAGE MAINTENANCE DOSE
WARFARIN SODIUM (COUMADIN)

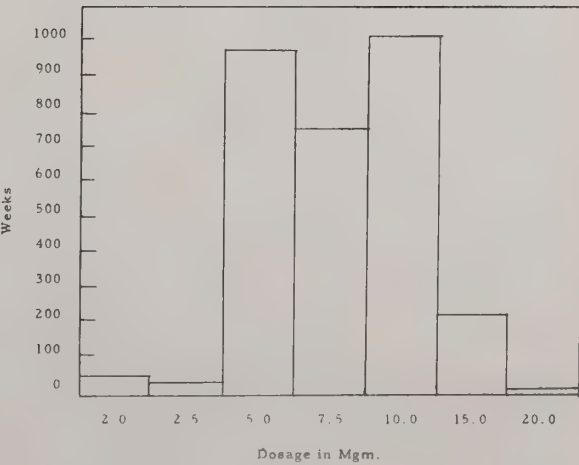


Fig. 4

The frequency of prothrombin times was also tabulated in the 100 cases studied:

Every 2-3 days	16%
Weekly	51%
Bimonthly	42%
Every 3-4 weeks	17%
Sporadically	10%

Warfarin sodium therapy was preferred to the earlier drugs utilized in this series for the following reasons:

1. Parenteral and oral dosages are identical
2. The time for induction of hypoprothrombinemia was less than that required with bishydroxycoumarin and more rapid dissipation of effect with less need for the use of vitamin K₁ oxide as an antidote
3. It was superior to phenindione requiring only one dose per day and was definitely associated with less bleeding, particularly in intermediate and long-term courses of treatment

The previously reported increased incidence of hemorrhage in the long-term anticoagulation over short-term series is again confirmed by analysis of the present 100 cases. Nichols, et al.,¹ reported spontaneous bleeding in 20 per cent of their series, and Keyes, et al.,⁴ maintaining their patients on bishydroxycoumarin, reported hemorrhagic incidences in 47 patients. In 20 cases of hemorrhage, therapy was not resumed. Manifestations of the hemorrhagic phenomena are graphed in Figure 5.

The incidence of intolerance to the specific anticoagulant exhibited is worthy of note.

Anticoagulant	Weeks of Therapy*	Per Cent of Total Weeks	Bleeding Number	Episodes Per Cent
Bishydroxycoumarin	310	6.73	2	2.82
Phenindione	1221	26.52	26	36.62
Warfarin sodium	3073	66.75	43	60.56

*Total weeks of therapy: 4604

The ratio of the number of weeks of therapy to the number of bleeding episodes equals one bleeding episode per number of weeks of therapy. Results were as follows:

Bishydroxycoumarin	145.0 weeks
Phenindione	48.3 weeks
Warfarin sodium	66.2 weeks

Another ratio was employed to compare the relative safety of the three anticoagulants. The percentage of weeks of therapy was re-

MANIFESTATIONS OF BLEEDING

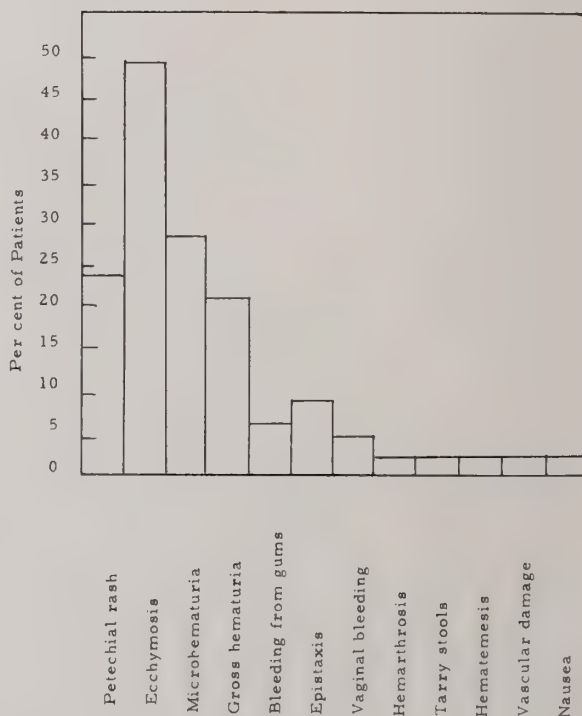


Fig. 5

lated to the percentage of bleeding episodes and revealed the following:

Bishydroxycoumarin	2.38
Phenindione	0.72
Warfarin sodium	1.10

The data would indicate that patients on warfarin sodium continued therapy 1.6 times longer than those on phenindione before experiencing bleeding. Those on bishydroxycoumarin continued 3.4 times longer than those on phenindione and 2.2 times longer than those on warfarin sodium. It must be emphasized that the statistics in favor of bishydroxycoumarin are heavily weighted by one case in which the drug has been tolerated for 100 weeks (total treatment weeks only 310) with only one episode of slight bleeding.

The following courses were observed in

the various categories of coronary artery heart disease:

1. Cases of impending myocardial infarction—20 cases with the occurrence of three episodes of myocardial infarction in spite of adequate anticoagulation as determined by the Quick one-stage prothrombin time. (One infarction occurred with a prothrombin time of 50 seconds.)
2. Cases continued after the first myocardial infarct—52 cases. There were four deaths in this group from the following causes:
 - a. Carcinoma of the rectum with metastases (1)
 - b. Cardiac arrhythmia (2)
 - c. Ventricular aneurysm with sudden death due to rupture or ventricular fibrillation (No autopsy)
3. Cases on therapy after two or more infarctions—17 cases with five sudden deaths.
4. Cases on therapy in view of recurrent coronary insufficiency—27 cases with one death.
5. Cases on therapy in view of cerebrovascular insufficiency or previous cerebral thrombosis—11 cases with two deaths while on therapy and two deaths following discontinuance of therapy.
6. Peripheral vascular disease (both peripheral arterial and venous disease)—nine cases with no deaths.

Discussion

In spite of the clinical impression of benefit derived from long-term anticoagulation therapy, an unbiased view of the therapeutic dilemma reveals several problems. First, and foremost, is the real difficulty in maintaining true long-term therapy on an outpatient basis. The hemorrhagic diathesis resulting from the use of these drugs suggests the need for better laboratory control. Moore and Beeler⁵ have presented a comparative study of the Owren Thrombotest and the Quick

one-stage prothrombin time technique. Results suggested that Thrombotest reliably reflects anticoagulation. Cases within the therapeutic range by the prothrombin time technique frequently fell beyond that recommended by Owren. Lower levels of anticoagulation would be desirable to reduce bleeding if this could be accomplished without reducing therapeutic effect. Factor IX depression is detected by Owren's Thrombotest and not by the Quick method. It must be remembered that oral anticoagulant therapy depresses Factor II (prothrombin), Factor VII (proconvertin), Factor IX, (plasma thromboplastin component), and Factor X (Stuart-Prower Factor).

The stability of the prothrombin time on a particular maintenance dose of oral anticoagulant may be influenced by many factors. Nutritional factors, broad spectrum antibiotic therapy, and circulatory factors productive of severe hepatic congestion may alter individual tolerance to the oral anticoagulant. Needless to say, hepatic and severe renal disease contraindicate the exhibition of these agents, as does any severe hemorrhagic diathesis or ulcerative lesion in the gastro-intestinal tract. Personality considerations may also contraindicate therapy. The alcoholic, psychopathic, mentally defective and depressed patients should be denied long-term treatment with these drugs.

Summary

1. Long-term anticoagulation therapy was attempted in 100 cases with 56 per cent being terminated before 12 weeks of outpatient ambulatory treatment.

2. Bleeding diathesis indicated discontinuance of therapy in most instances. There were 71 bleeding incidents in 41 patients.

3. Improved laboratory control of therapy is desirable.

4. Further need for a long-term cooperative study is stressed with mass statistical evaluation of the therapeutic results in terms of mortality rates, incidence of subsequent thrombo-embolic episodes, and the over-all

clinical course of the thrombo-embolic disease in the described diagnostic categories.

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Athletic Injuries Decrease But Much Remains to Be Done

Progress has been made in minimizing the hazard of injury in competitive contact sports, but much remains to be done. Initial steps in the establishment of an athletic injury programs include:

- Investigation of possible methods of financing the program,
- Preparticipation physical examinations of the athletes,
- Written communication with parent in-

forming them of the intent of the program and the methods of medical care available.

- Preparticipation instructions in special conditioning drills,
- Hot weather and early season precautions and first aid measures for coaches,
- Schedule of physician coverage.

The aim of athletic injury programs for high schools should be to prevent athletic injuries and to provide prompt and proper treatment and total rehabilitation.

Long-Term Treatment of Myocardial Ischemia

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The treatment of myocardial ischemia with long-acting nitrates has left something to be desired. A series of "problem" patients has responded favorably to the non-nitrate compound, dipyridamole.

IN THE MANAGEMENT of angina pectoris, nitroglycerin has demonstrated consistent clinical effectiveness in relieving the acute attack. However, the long-acting derivatives of this basic drug have been of controversial merit in either reducing frequency and severity of attacks or in altering the underlying pathology responsible for the attacks.¹

Despite the fact that the etiology of the anginal attack remains uncertain, it is believed that myocardial ischemia plays an important role. For this reason, there has been a continuing search for drugs which can either improve the ischemic condition of the myocardium or provide a better utilization of the oxygen available to the myocardium.

Among the drugs being investigated, dipyridamole,* a non-nitrate compound, has been brought to our attention. The manufacturers of this product claim, on the basis of pharmacologic studies, that it fulfills both of the above requirements, when given for extended periods. Survival rate and development of collateral coronary circulation following experimental coronary occlusion have

been reported to be significantly greater in dipyridamole-treated dogs than in untreated controls.²⁻⁵

The assertion is also made that dipyridamole acts directly on the hypoxic myocardial cell to increase yields of energy-rich phosphates (ATP). This claim also stems from animal and *in vitro* studies in which the drug apparently improved oxygen utilization, increased ATP formation, and prolonged myocardial contractility.⁶⁻¹⁰

The implication of these claims is that, with the use of dipyridamole, fewer and milder anginal attacks would occur and other symptoms of insufficiency (fatigue, dyspnea, etc.) would be alleviated. To test this hypothesis, 18 anginal patients were selected for evaluation of dipyridamole. These patients were not selected in random fashion; instead, all were chosen because of their known unresponsiveness to long-acting nitrates. It was felt that these nitrate-resistant patients would provide the severest test of the value of dipyridamole.

Patients and Procedure

Eighteen ambulatory patients with well documented histories of moderately severe coronary ischemia with angina were studied. These patients had been found to be unresponsive to previously administered long-acting nitrates. Nearly all patients (nine males, nine females) were elderly (54 years or older).

Dipyridamole was administered in doses of 25 mg. t.i.d. for one to nine months. Other drugs, including nitroglycerin for relief of acute anginal episodes, digitalis, diuretics, etc., were continued when indicated. The majority of patients were treated for at least three months. Duration of therapy is summarized in Table 1.

* Persantin®, Geigy.

TABLE 1

DURATION OF DIPYRIDAMOLE THERAPY	
<i>Duration</i>	<i>No. of Patients</i>
1 month	4
2 months	2
3 months	4
6-9 months	8
	—
	18

At the beginning of the study each patient was carefully evaluated using several specific criteria of response including: frequency of anginal attacks, nitroglycerin requirements, exercise tolerance, dyspnea, orthopnea, and fatigue. Each patient was re-evaluated at regular intervals and the criteria compared to the pretreatment levels.

Results

1. Frequency of Anginal Attacks

All of the 18 patients had experienced anginal attacks during previous treatment with long-acting nitrates. In 12 patients, however, the frequency of such attacks was at least one per day: among these 12 patients, the frequency of attacks was reduced in 10 instances (as shown in Table 2) and nitroglycerin requirements were reduced or eliminated, corresponding to the reduction in frequency and severity of attacks.

TABLE 2

FREQUENCY OF ANGINAL ATTACKS IN 12 PATIENTS

<i>Before Dipyridamole Therapy</i>	<i>After Dipyridamole Therapy</i>
	No attacks: 2 patients*
At least 1 attack daily.	Less than 1 attack per day: 8 patients
	No change: 2 patients

* These 2 patients were treated for 9 and 6 months respectively.

2. Exercise Tolerance

Out of the 18 patients, 14 were observed to have poor exercise tolerance. Of these 14 patients with poor exercise tolerance on prior long-acting nitrates, eight obtained definite improvement, and three showed slight improvement with dipyridamole.

3. Dyspnea

Fifteen patients were dyspneic during nitrate administration. Ten of the 15 improved with dipyridamole.

4. Orthopnea

Two of three orthopneic patients showed definite improvement with dipyridamole.

5. Fatigue

Eleven of 14 patients exhibiting fatigue during prior nitrate therapy were improved with dipyridamole.

6. Over-all Response

The over-all evaluation of patient response may be summarized as follows:

Excellent or good results:	9 patients
Fair results:	5
Poor results:	4
	—
	18

There were no significant side effects observed in the course of treatment. One patient experienced a vesicular eruption, but this was of doubtful relationship to dipyridamole, and was probably a contact dermatitis.

Comment

It is evident that, in all clinical parameters, dipyridamole exerted beneficial effects in the patients studied, who had previously failed to respond to nitrate therapy. With regard to the frequency of anginal attacks, it was seen that the two patients given the most extended therapy (six and nine months) obtained maximal therapeutic effects (complete absence of anginal attacks). The necessity of administering dipyridamole in adequate dosage for a period of weeks or months before optimal clinical improvement has been observed by other investigators. This point has been strongly emphasized in two recent clinical reports describing the efficacy of long-term dipyridamole therapy in coronary insufficiency.^{11,12} The latter author also suggests that the gradual amelioration of

symptoms of coronary insufficiency may be related to the time required for the drug to enhance formation of intercoronary anastomoses.

While the number of patients in this series is not large, the fact that all had been relatively unresponsive to previous nitrate therapy makes the results considerably more significant. Thus, a total of 14 out of 18 patients (78%) showed some degree of improvement beyond that provided by the nitrates. This would suggest that the combination of coronary and metabolic actions of dipyridamole may well provide therapeutic effects beyond those associated with nitrate administration.

In view of the satisfactory results obtained in this series of "problem" patients, it is intended to continue use of dipyridamole on an alternate basis in patients with myocardial ischemia. A report on these results obtained in a larger series of patients will be published subsequently.

Summary

- 1. Eighteen anginal patients, previously shown to be unresponsive to long-acting nitrates, received long-term oral dipyridamole therapy.
- 2. In comparison with nitrates, continued dipyridamole therapy markedly decreased the frequency of anginal attacks, reduced nitroglycerine needs, increased exercise tol-

erance, and reduced dyspnea, orthopnea and fatigue in the majority of patients, even in nitrate-resistant patients. No significant side effects were observed during treatment.

3. In animal experiments a definite improvement of the anatomic and metabolic deficiencies under hypoxic conditions has been extremely documented. Our clinical findings suggest that the metabolic effects of the drug have therapeutic significance in humans.

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MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Feb. 1964	Feb. 1963	Jan.- Feb. 1964	Jan.- Feb. 1963
Brucellosis	1	0	1	0
Diphtheria	0	0	0	0
Hepatitis	76	97	113	262
Measles	960	652	1498	1003
Meningococcal Infections	5	14	10	24
Meningitis (Aseptic)	2	+	4	9
Poliomyelitis	0	0	0	0
Rabies (In Animals)	60	23	90	39
Streptococcal Infections	1556	1191	2849	2253
Tularemia	0	2	3	5
Typhoid Fever	2	0	2	0

The Diagnosis and Significance of Lobar Emphysema in Childhood

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Lobar emphysema is seen frequently in young patients. This condition and its treatment is discussed

LOBAR PULMONARY EMPHYSEMA, involving one lobe rarely and the right, middle, and lower lobes usually, has occurred frequently in my pediatric practice in the past two years. Viral infections, such as "flu" and measles, have been the usual causes. Other infections, aspirated foreign material, etc. have been implicated in some cases.

Diagnostic finger tip percussion to detect hyperresonance and distention of the lobe suggests the diagnosis. Heavier flat hand percussion to expel the trapped air and flatten the lobe confirms it. Auscultation alone and x-ray usually miss the diagnosis.

Discovering the emphysema helps both the diagnosis and treatment of the patient.

Localized emphysema has been recognized in my pediatric practice for a long time, but no especial significance has been attached to this finding. During the past two years came the realization that localized emphysema as a rule was lobar emphysema, and that this type of emphysema resulted from an abnormal condition that obstructed a primary bronchus. There have been cases of viral or atypical pneumonia, a large number of cases of "Flu" of the type or types occurring here throughout 1962 and 1963, two moderate epidemics of measles, and several cases of aspirated foreign material. Practically all of these cases had lobar em-

physema. The study of these cases has been interesting and progressively enlightening. The purpose of this paper is to describe the method used to diagnose lobar emphysema and to discuss the significance of this diagnosis in the light of this study.

The condition to be described is not that of infantile lobar emphysema, a rare and dangerous disease I have never knowingly seen. Most of the available literature on lobar emphysema deals with this disease. In April 1956, Bolande, Schneider, and Boggs¹ reported their studies of infantile lobar emphysema. They had found records and specimens of seven cases in the files of the Children's Memorial Hospital, Chicago, from 1938 to 1954, and reports of thirty cases in the literature. Infantile lobar emphysema is characterized clinically by the sudden onset of dyspnoea and cyanosis in a young infant. These symptoms are often accompanied by a wheeze which originates in the opposite lung and is due to distortion of the bronchi of that lung from the tremendous pressure in the affected lobe. Bolande, Schneider, and Boggs found alveolar fibrosis in the affected lobes of their seven cases and speculated that this fibrosis might be responsible for the emphysema.

Robert R. Shaw,² Fisher, Potts, and Holsinger³ and others have also reported their studies of this same disease. In some cases, congenital deficiencies of the cartilaginous rings of the bronchi were found, and in some other cases, anomalous blood vessels were found to be pressing on a bronchus. In some cases, no cause for the emphysema could be discovered. This disease apparently occurs only in an upper lobe or in the right middle lobe. Whatever the mechanism may be, it

must permit air to be drawn into the affected lobe and then prevent its escape. Enough pressure is produced to disrupt the alveoli in the affected lobe and to flatten or distort the otherwise normal lung tissue on both sides of the chest. X-ray examination is diagnostic. Lobectomy seems to offer the best chance for cure.

According to Thomson and Forfar⁴ over a quarter of a century ago it was shown that the bronchi could act as valves in such a way that with respiration a lung or a lobe of a lung could become over-inflated. "This valvular action would appear to be dependent on two physiologic facts, first that the bronchi dilate on inspiration and contract on expiration, and inspiration is predominantly an active muscular movement and is consequently more powerful than expiration which is largely a passive recoil. Thus, on progressive reduction of the bronchial lumen by an obstruction, a point will be reached at which the lumen is closed on expiration but allows air to enter on inspiration, due to the greater power of this action and the slight bronchial dilatation which accompanies it. In the adult, a functional disorder of this nature appears to be rare; in the infant, possibly due to the narrower bronchial lumen and greater elasticity of the bronchial wall, it can occur much more readily."

"Valvular obstruction of the main lobar bronchus produces obstructive lobar emphysema by virtue of the fact that a long lobe is a sealed, self-contained unit. Obstruction of smaller bronchi and bronchioles will not produce lobular emphysema provided the interalveolar pores (pores of Kohn) remain patent."

In two previous papers^{5,6} I discussed the pathogenesis of both localized emphysema and atelectasis, and described the procedures needed for the recognition of each. To summarize these papers: the type of emphysema I described results from blockage of a bronchus, which permits air to be drawn into the affected lobe but interferes with expiration. The inspiratory effort was

found to be more effective than the expiratory in moving air past the narrowed area in the bronchus which acts as a check valve. When the narrowing of the bronchus becomes sufficient to withstand some positive pressure, the affected lobe becomes distended with trapped air. On the other hand, if the bronchus becomes completely occluded, possibly from some narrowing of the bronchus and by thick sputum which the patient cannot cough up because of pain, post-operative dressings, extreme drowsiness, etc., the air in the affected lobe is absorbed. The oxygen is absorbed quickly, and the other gases are absorbed more slowly. Unless the blockage can be disrupted so as to permit air to enter, atelectasis will result. The air in the emphysematous lobe obviously is under positive pressure, whereas the pressure in the atelectatic area is negative, due to the absorption of air from a closed cavity. The symptoms and physical findings of the two conditions are quite different, but the same procedure, namely heavy, flat hand percussion of the chest, to be followed by a cough, generally will provide the diagnosis for both. When obstructive atelectasis is present, the heavy percussion and cough usually will dislodge and expel the sputum and permit air to enter the collapsed area, often with rapid relief of chest pain, a fall of temperature, the resumption of an effective cough, and obvious changes on physical examination. When atelectasis of the newborn is present, heavy percussion, with its alternation of compression and rebound helps to expand the lung. Heavy percussion over the emphysematous lobe would drive the air from this lobe and flatten the lobe temporarily.

Our concern now is with lobar emphysema. When lobar emphysema is present there may be a cough which varies from case to case and with the duration and nature of the underlying illness. In acute, subacute, or recurrent "flu", and in early measles, however, toxic and/or gastro-intestinal symptoms may dominate the picture, and there may be few or no symptoms from

the respiratory tract to suggest the presence of any disease. Finding lobar emphysema of the right, middle, and lower lobes under these circumstances therefore, would seem from my recent experience to be highly indicative of "flu", or in epidemic times, of early measles, provided the emphysema recurred slowly (10 to 20 min.) after being flattened by heavy percussion. Auscultation in these cases usually reveals only slightly diminished and slightly shortened breath sounds over the affected lung. Lobar emphysema with less distention of the lobe, more rapid refilling after the lobe has been flattened, and associated with rales or a wheeze may occur late in the "flu" or measles or result from other causes. Careful consideration of such findings and of the setting in which they occur is important in any case.

From what has been said, it would seem that physical examination before and after heavy percussion and cough was the method used for diagnosis and continued study. X-ray examination, in my experience, is not of any positive diagnostic value in the lobar emphysema commonly seen. X-ray is useful to rule out opaque foreign bodies, tuberculosis, tumors, etc., but apparently cannot detect the changes which are so typical and so easy to find on physical examination, probably because the fixed distention usually does not exceed the physiologic limit.

Fairly light fingertip percussion, to detect hyperresonance and to reveal that the outer border of resonance is two to four inches further out than normal, is the first step in the diagnosis. If this kind of physical examination is done routinely, deviations from the normal soon become easy to find. Displacement outward of the outer edge of resonance often can be found in the examination of a crying child. Confirmation of the validity of this finding is immediately available by using firm, flat hand percussion over the suspected emphysema with enough force to drive air from the distended lobe. Diagnostic percussion after the heavy per-

cussion then will reveal that flatness has replaced the hyperresonance over the entire involved lobe. Further examination will reveal how much time is required for the flattened lobe to become distended again, and to note any other change that might have occurred. With cooperative older children it can also be shown by percussion that the displaced outer border of resonance does not move with either forced inspiration or expiration.

Clinical observation leads to the belief that edematous swelling and possibly bronchial spasm in the main lobar bronchus play the major roles in the etiology of lobar emphysema not caused by aspirated foreign bodies. (Since this paper was sent to the Virginia Medical Monthly, I have begun to try one or two inhalations of Medihaler Duo (Isoproterenol HCl and Phenylephrine bitartrate) on patients seen at the office with emphysema of the right, middle, and lower lobes. So far, every patient has lost the emphysema within a minute or two. This observation apparently confirms the impression that the bronchial blockage is usually due to edema and/or spasm in the main bronchus. It also suggests that this procedure might be useful in the diagnosis of bronchial blockage from other causes.) Tenacious exudate also is probably present later on in some instances. This edema, spasm, and exudate can result from viral or other infections, from allergy, and from aspirated foreign bodies or irritating material. Tuberculous lymph nodes and tumors also can narrow the bronchial lumen enough to produce emphysema and should be sought in appropriate cases. Viral infections lead the numerical list of causes of lobar emphysema. It is not unusual in epidemic times to see several cases in one day. On several occasions recently, examination of two or more siblings showed that all had lobar emphysema in the right middle, and lower lobes, along with other symptoms to suggest some stage of a "flu" infection.

Viral or atypical pneumonia seems to begin in and around a large bronchus. This

statement is based on the observation that lobar emphysema has consistently been the first positive finding during physical examination of patients with this kind of lung infection. Incidentally, crepitation over the lung root, another early finding in some types of viral pneumonia, is much easier to hear after the air in the emphysematous lobe has been driven out by heavy percussion. In mild cases of atypical pneumonia, seen only after coughing had continued for several weeks, lobar emphysema and dry crepitation have been found to indicate the probable cause of the cough.

A few illustrative cases, with varying etiology, will be presented briefly.

Jeff P., my youngest patient with lobar emphysema, was an infant six-hours-old whose mother had been ill and vomited twelve days previously. He was moderately cyanosed and had bilateral emphysema and abdominal distention when first seen. After suitably heavy flat hand percussion, the emphysema disappeared, permanently on the left and temporarily from the right middle and lower lobes, which refilled slowly. This emphysema was still present five days later, but since he was doing well otherwise, he was allowed to go home, where he finished his recovery.

Because his mother apparently had a viral infection with nausea, aching, etc., twelve days before his birth, and his emphysema after the first day was so typical, I thought he had "flu" acquired before birth from a maternal viremia.

Nancy G. was seven and a half years old when first seen February 20, 1960. There was a history of frequent colds with bronchitis, during infancy. When first examined, she had a temperature of 102° (R) and findings to suggest sinusitis with bronchopneumonia. She was treated in Johnston-Willis Hospital, where x-ray examination revealed bilateral acute maxillary sinusitis and pneumonia in the medial segment of the right middle lobe, and diffusely throughout the left lung. In August of 1960, she

was seen again for dry cough of several days' duration. Her temperature was 99.6° (R). Physical examination was essentially negative, except for emphysema of the right middle, and lower lobes. X-ray examination showed possible fibrosis about the right hilum and in the medial portion of the right base. (Probably the remains of the previous pneumonia.) She has since been seen on March 21, 1961, October 20, 1961, and December 4, 1961, with emphysema of the right middle and lower lobes, and with normal temperature on each occasion. In searching for a probable cause for these spells, which recurred despite careful treatment for allergy, including regular injections of appropriate allergens, the mother noted that the patient developed nasal symptoms and a cough whenever the father sprayed in-doors to kill ants. Since the insecticide spray was eliminated, she has gotten along much better; enough so to suggest that the spray was the chief etiologic factor in her attacks of lobar emphysema. Incidentally, her tuberculin test was negative, and an x-ray examination made March 3, 1961, showed no significant abnormalities in the chest.

Robin P., three years old, was seen January 3, 1962, with a history of a cough for about a month. During that time, she had had a couple of croupy spells but hadn't seemed really ill. No fever had been noted. Physical examination revealed her temperature was 99.4° (R), her nose was open, her pharynx was dull red. She was normal otherwise, except for emphysema of the right middle, and lower lobes. January 4th, in Johnston-Willis Hospital, physical examination revealed a stuffy nose, and the pharynx was slightly dull red. Physical examination otherwise was essentially negative, except for emphysema of the right middle, and lower lobes. These lobes refilled slowly after being flattened by heavy percussion. She was started on Dimetane Expectorant and Panalba KM. January 5th, the right middle and lower lobes were emphysematous, and

slightly wheezy rales were heard over both right and left lungs. Heavy percussion and a cough, induced by a tongue depressor, brought up thick, purulent sputum. Subsequent examination showed that the emphysema and rales had cleared. A few easily cleared rales were heard January 6th. X-ray examination: "negative chest examination with films and fluoroscopy." Blood count: Hgb. 11.5 grams, Hct. 36, WBC 13,900 Segs 51, L. 40, Monos 4, eos 5. Urine examination was negative; the tuberculin test was negative. Diagnosis: Lobar emphysema, ? sinusitis, ? slight allergy, bronchitis.

In the spring of 1962, lobar emphysema was found along with bronchitis or bronchopneumonia during the examination of several children in late measles. The emphysema cleared, along with the lung infection, after appropriate treatment for the secondary infections was given, and time had cured the measles. Even more recent experience revealed the occurrence of lobar emphysema in cases of measles seen before the rash appeared, one as early as the first day of fever. Except for the fact that "flu" was epidemic at the time measles was going on and could not always be excluded, lobar emphysema would have to be considered a characteristic feature of measles too.

Shortly after a case of measles, a seven-year-old girl developed a temperature of 104°. She had pain in the left lower axilla and back, a painful, partially suppressed cough, and grunting respiration. Physical examination revealed a modified hyperresonance due to distention of the left, lower lobe, and some pain from percussion of the left side of her chest. Breath sounds were diminished in intensity and were slightly bronchial over the left, lower lobe. No rales were heard. Early lobar pneumonia was diagnosed, along with lobar emphysema. The patient was treated with Panalba KM and Covanamine Expectorant. When seen the following day, her temperature was normal and the left lower lobe seemed clear. The cough was occasional and loose. Apparently, the first stage of lobar pneumonia located in

or about the left lower primary bronchus was found and aborted by proper treatment.

Aspirated foreign bodies, because of anatomical reasons, are especially prone to find lodgement in the right bronchial tree. The foreign body mechanically narrows the lumen of the bronchus, may irritate the mucosa, both chemically and mechanically, and so opens the way to infection that, untreated, may progress to abscess-formation. In the early days after the aspiration, an incessant dry cough and a wheeze are commonly observed and lobar emphysema is the rule. Unless the foreign material is removed, the bronchus may become completely blocked, and atelectasis then takes the place of emphysema. If the atelectasis develops while the patient is under observation for a probable foreign body aspiration, it helps to confirm the diagnosis. If the patient is seen for the first time after atelectasis has developed, it is difficult to differentiate the foreign body type of atelectasis from "unresolved lobar pneumonia". When there is a clear-cut history of a possible aspiration of a foreign body and physical findings are present to confirm the diagnosis, early bronchoscopic examination is clearly indicated. If the aspiration occurred when no responsible person was present, and the roentgenologist cannot confirm the clinician's suspicions of a foreign body in the bronchus, a considerable delay of definitive treatment is almost inevitable. The antibiotics used to treat an acute lung infection may also stop local infection in the neighborhood of the foreign body, and so delay or prevent the transition from emphysema to atelectasis. The persistence of symptoms and physical findings compatible with aspirated foreign material, despite antibiotic therapy, therefore, may have to serve as the indications for bronchoscopic examination. Strong convictions on the part of the pediatrician may be necessary to convince the bronchoscopist that his services are in order.

Curtis S., two-year-old white male, was seen November 26, 1960. He was well until five days before. The parents remembered that

he had strangled while drinking water before his symptoms began. No known foreign body was in his mouth at that time. He had coughed almost incessantly the preceding few days and had a loud wheeze. Physical examination: Slight muco-purulent secretion was seen in the nose, but the nose was not stuffy. The pharynx was normal. The ears were normal. The heart was normal. Lungs: a few coarse rales were heard over the left, lower lobe. The breath sounds were diminished, and a to-and-fro wheeze was heard on the right. Emphysema of the right middle and lower lobes was present. The patient was referred to Johnston-Willis Hospital for x-ray and treatment. The roentgenologist reported that: "From the x-ray standpoint, there was no evidence of obstructive emphysema to suggest non-opaque foreign body. There was bilateral emphysema and there was a prominence of broncho-vascular markings, suggesting the possibility of asthmatic bronchitis." Examination of the blood showed: WBC 5,800, Hct. 33, Hgb. 10.7, Segs 37, L. 61, Monos 2. There was slight hypochromia. The urine was normal. The tuberculin test was negative.

On November 28th, the right lung was dull over the right middle, and lower lobes when first examined. After heavy percussion and cough, the breath sounds were less diminished, an expiratory wheeze was heard, and the middle and lower lobes had become hyperresonant. Examination of the left lung showed breath sounds louder than normal, and there were a few easily cleared rales. "X-ray re-examination of chest with fluoroscopy and films showed some increase in the emphysema, particularly on the right, but there was no mediastinal sway, nor was there any paradoxical motion of the diaphragm noted on fluoroscopy. No atelectasis was noted. In view of this absence of findings, a diagnosis of obstructive emphysema still could not be made with any certainty whatsoever." Because physical findings highly suggestive of an aspirated

foreign body persisted in spite of intensive antibiotic therapy, the bronchoscopist finally agreed to operate. December 2nd, one-half of a peanut was removed from the right bronchus by Dr. E. R. Vaughan. The child's lungs cleared rapidly after the operation.

Wendell H., twenty-one months old, was admitted to Johnston-Willis Hospital November 8, 1961. He had had pneumonia three times previously. The last attack had begun three weeks earlier with a cold which went into pneumonia. He had improved under treatment with antibiotics at home, but had not cleared. He was hospitalized for study, because of persistent emphysema of the right middle, and lower lobes.

X-ray examination: "From an x-ray standpoint, no pathologic changes were noted in chest or sinuses at this time." Urinalysis was negative. Blood studies showed: WBC 8,500 Hct, 38, Hgb. 11.5 grams, Segs 33, Stabs 2, L. 65. The sweat test for chlorides showed less than 50 milli-equivalents of chlorides per liter.

November 10th: He vomited three times yesterday after taking Sobee (had vomited Mullsoy several months previously). Both milk and Sobee were stopped. Physical examination: No emphysema was found, and no rales were heard. He was discharged, with diagnosis of asthmatic bronchitis and allergy to soy beans and milk.

November 22: Patient was readmitted to Johnston-Willis Hospital. He had had a tendency to strangle on unstrained food, and he had strangled three days before. He had continued to cough, his nose had continued to run, and he had continued to have a slight evening fever since the previous admission. Physical examination: the eyes and ears were normal. The nose showed a slight mucoid discharge. The pharynx was normal. The heart was normal. Lungs: Emphysema of the right middle and lower lobes was found. Breath sounds were slightly diminished and a to-and-fro wheeze was heard, which was louder after the emphyse-

matous lobes had been flattened by heavy percussion.

Blood examination: WBC 7,100, Hct. 30%, Hgb. 8.4 grams, segs 45, L. 54, Monos 1, RBC were hypochromic and anisocytotic. The urinalysis was negative. The tuberculin test was negative. X-ray report: "Normal chest". His highest temperature was 100.2°. Bronchoscopy revealed inflammation and secretion in the right bronchus. No definite foreign body was seen. Suction was done. Emphysema was present just after bronchoscopy, but by the next morning the emphysema and wheeze had disappeared and they have not returned. His health has been good since. Diagnosis: Probably aspirated vomitus.

Debbie B.—this patient was seen for a cold and bronchitis on November 23, 1961. She was given Panalba KM and Dimetane Expectorant. The cold had cleared four days later, but the patient had continued to cough. She was seen at the office December 8, for fever and cough. The fever had been present at least three days and had been recorded at 103°. Physical examination at that time revealed emphysema of the right middle and lower lobes, with some diminution of breath sounds over these lobes. She was given Madribon and the temperature fell promptly. She had had no fever since December 9th, but the cough had continued. Physical examination on December 11th was essentially negative except for emphysema of the right middle, and lower lobes. Heavy percussion drove the air from these emphysematous lobes. The breath sounds over these lobes were definitely diminished and bronchial after heavy percussion, but no rales or wheeze could be heard. The affected lobes refilled slowly. At that visit, the mother recalled that the patient had choked and vomited while eating an apple after my first visit. The child was sent to Johnston-Willis Hospital. X-ray examination December 11, showed "Slight prominence of markings with otherwise negative chest by fluoros-

copy and films. No foreign body suggested." December 14th, physical examination: "The right middle, and lower lobes seem to be changing from emphysema to atelectasis." X-ray examination: "Comparison with chest films December 11, shows no apparent change, with no definite pneumonia or atelectasis. There is again some prominence of markings, especially to the right base."

Her highest temperature from December 11 to 16 was 100°(R). The tuberculin test was negative. Examination of the blood December 12th: WBC 7000, Hct. 38, Hgb. 12.3 grams, Segs 14, Stabs 2, L. 81, Monos 3. Urinalysis: Clear, yellow, acid, sp. gr. 10-18, Alb. neg., Sugar neg., Sed 15 to 20 WBC to Hpf.

The patient was given Panalba KM while in the hospital, but no improvement occurred, so bronchoscopy was advised. December 15th, the bronchoscopic examination revealed some inflammation and swelling in the right bronchus, and some secretion. No foreign body was seen. The bronchus was aspirated but the material was lost. December 16th: The lungs seemed to be entirely normal to percussion and auscultation, and physical examination otherwise was normal. Her lungs have been clear since the bronchoscopy and suction. Diagnosis: Probably aspirated chewed apple particles.

Summary and Conclusion

Lobar pulmonary emphysema involving one lobe rarely, and the right middle and lower lobes usually, has occurred frequently in my pediatric practice in the past two years. This type of emphysema results from a blockage of the main bronchus to a lobe which permits air to be pulled into the lobe until it is fully distended, but interferes with expiration.

Infections localized in or about the main bronchus, such as viral pneumonia, have caused lobar emphysema in a few cases. The recently occurring type or types of "flu" have had lobar emphysema of the right middle, and lower lobes as a characteristic

lesion. Measles, allergic reactions, aspirated foreign material, and swelling with exudate from other infections have been less common etiologic factors.

Proper treatment is helped in at least two ways by discovering lobar emphysema. First, the presence of an abnormal condition in a main bronchus and its dependent lobe is definitely indicated. Second, possible etiologic factors are suggested to aid the diagnosis of at least part of the trouble. (Concurrent infections occur frequently in patients with emphysema.) The discovery can be made easily if physical examination is done properly. Fairly light finger-tip percussion to reveal hyperresonance, and to determine that the outer border of resonance is located well beyond the normal line of demarcation, is the first step. Flat hand percussion, done with enough force to drive air from the distended lobe, is the second step. Diagnostic percussion then will show flatness in the place of hyperresonance over the entire lobe. Noting the time required for the lobe to be distended again has real value in diagnosis, e.g., the emphysematous lobes refill very slowly and silently after being flattened by heavy percussion in "flu" and in early measles. A short refilling time with a wheeze would suggest a late stage of these diseases or another etiology. (Since this paper was accepted for publication, I have found that one inhalation of Medihaler Duo generally opens the blocked bronchus promptly. This suggests that edema and/or spasm caused the block.)

Auscultation may reveal a wheeze and rales in some cases, but often only transmitted breath sounds of diminished intensity can be found over the involved lobes.

These abnormal sounds may be easier to detect after the distended lobe has been flattened by heavy percussion. Auscultation alone will generally miss the diagnosis but may be valuable after heavy percussion to detect any changes that may have occurred.

Unfortunately, x-ray examination has not revealed the changes indicative of the lobar emphysema described here, which are so easy to find by physical examination. Objective proof of the diagnosis by x-ray, therefore, cannot as a rule be obtained.

Three cases which the bronchoscopist examined and treated for aspirated foreign material were cured and have been reported here. Only one of these cases had an identifiable foreign body—one-half of a peanut. The other two had inflammation and secretion in the indicated location, and were cured by suction. Cases seeming to have other etiologic factors have also been described, to round out the clinical picture.

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Pesticides and Public Health

An unusual tablet in Jamestown, Virginia, reminds us that at one time malaria reduced the colony to six able-bodied men. This event was grim evidence of man's constant competition for survival with other forms of life—animals, insects, fungi, rodents and weeds. In the case of insects, not only do they play an essential part in the biological transmission of disease, but they also destroy, contaminate and steal man's food.

Since the days of the Jamestown Colony man has fought back with stunning success. Public health procedures began the control of many insect-transmitted diseases, but the most effective weapon against insects so far, has been the development of insecticides.

Around 1850, sulfur, bordeaux mixture and paris green began to be used. Other arsenicals related to paris green were developed and pesticide usage increased. During World War I mercury preparations were introduced, followed by certain fluorine compounds and thiocyanates. World War II saw the introduction of chlorinated hydrocarbons, DDT in Switzerland, benzene hexachloride in England and France.

Following World War II more toxic chlorinated hydrocarbon insecticides—chlordane, toxaphene and dieldrin—made their appearance. As a result of research in Germany in the early 1940's a class of highly toxic materials, slight modifications of extremely potent war gases, became available. The materials were organophosphates such as parathion and tetraethylpyro-phosphate. Shortly thereafter less toxic and less persistent organophosphates such as malathion were developed.

The use of pesticides has increased dramatically. Today, more than 500 million

pounds of pesticides worth \$300 million dollars are sold annually in this country. There are 94,000 brand-names registered; more than half are insecticides, the rest are fungicides, herbicides, rodenticides, miticides, et cetera.

Pesticides are proving both a blessing and a threat to man. They increase his crop yield, lessen insect-born disease and are making his life more pleasant and abundant. Yet, there is evidence that their increased usage is creating problems that must be solved if man is to control the adverse effects of these chemicals.

First, there are accidental deaths. Nationwide, 83% of economic poisons are used in agriculture, yet only 23% of the deaths due to pesticides occur among agricultural workers. Fifty per cent of the deaths occur at home, suggesting that the home and garden are the places of lethal exposure. Of the fatal accidents, 60% are small children. When one cannot read, label precautions have no meaning. The toxicity of many of these chemicals (fatalities have resulted from discarded containers) requires prompt specific treatment. In Virginia poison control centers located throughout the State aid the physician by maintaining files of this vital information.

It is impossible to know how many illnesses have occurred, and are occurring in Virginia because of the misuse of pesticides, as there is no system for reporting or recording injuries attributable to them. However, it would be misleading to assume there are no health problems, or that the problem is under control. California is the only state which annually publishes a detailed tabulation of non-fatal injuries due to economic poisons.

Second, there is the problem of residue.

The precise burden being built up in the organs of humans has not been established. There is no comprehensive program of monitoring the total environment to determine the contribution from other sources, such as water, to the total residual pesticide problem. Once released, control is lost over these lethal chemicals.

There is also a paucity of information about the toxicological and physiological effects when significant exposure to pesticide persists. Synergisms among pesticides and other food additives have not been studied.

There are laws, however, both Federal and State, designed to protect the public. In general, they require registration of economic poisons. In order to have such a product registered, the manufacturer must provide scientific proof that the chemical will safely and effectively accomplish the purpose for which it is manufactured. If it is to be used on food, the Food and Drug Administration decides whether or not the proposed pesticides can safely be used, and whether any residue should be permitted. Pesticide residues on food are closely monitored and levels permitted are well below the established safe level in animal tests. If a tolerance level is set, it is usually at the 1/100th level. This does not imply an assurance of a hundred-fold safety factor. It takes into account a ten-fold greater sensitivity of healthy humans over healthy test animals, plus an additional ten-fold variation of sensitivity within the human species to take into account the young, the sick, the susceptible and the aged.

In 1962 Governor Harrison appointed an Inter-Agency Committee on Environmental Health¹ to explore the need for increased State activity, better coordination among State agencies, and intensification of public information and education efforts in the field of environmental health. The use and control of pesticides is a matter of concern to this Committee. Agencies represented on the Committee all have individual responsi-

bilities and functions in the field of environmental health. For example, since much of the work of the State Health Department is concerned with contagious disease, the sanitary environment is closely monitored and regulated. The chemical and physical environment is also of concern to the department. Public water supplies are sampled and analyzed for some chemical constituents of health and economic significance, and for radioactivity. Pasteurized milk is tested for antibiotics. The environment in and around business and industrial establishments is surveyed for health hazards, both chemical and physical. Closer cooperation and coordination of activities concerning pesticides is being instituted among all State agencies concerned.

At the present state of knowledge about economic poisons the greatest need is the education of those persons using these chemicals. The users must recognize the hazards of the highly potent and toxic chemicals at their disposal. Conscientiousness and care are necessary in manufacture, in transit, in storage and during application.

No doubt the usage of pesticides has saved many lives, but it is well to weigh the benefits against the hazards and acknowledge the areas in which we have insufficient knowledge.

1. Inter-Agency Committee of Environmental Health

- Mack I. Shanholtz, M.D., Chairman,
Commissioner, State Department of Health
Richard D. Chumney, Commissioner, State
Department of Agriculture and Immigration
W. H. Hargis, Ph.D., Director, Virginia
Institute of Marine Science
A. H. Paessler, Executive Secretary, State
Water Control Board
Chester Phelps, Executive Director,
Commission of Game and Inland Fisheries
R. W. Engel, Ph.D., Department of Biochemis-
try and Nutrition, Virginia Polytechnic Insti-
tute, representing Dean W. B. Bell, VPI
School of Agriculture
James B. Carson, Secretary-Treasurer,
State Board of Pharmacy
J. M. Alexander, Commissioner, Division of
Water Resources, State Department of Con-
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A Step in the Right Direction

The total therapeutic effort of a mental hospital must be evaluated on the basis of "successful" releases or discharges. Of course, a high discharge rate means nothing if there is a correspondingly high rate of relapse and return to the hospital.

Many complex factors enter into statistical evaluations of a hospital's therapeutic success. These have been discussed previously.¹⁻⁶ They include the climate of acceptance of former mental patients in a given community, the general economy, the availability of planned rehabilitation and after-care programs.

Nevertheless, a rough estimate is obtained by what statisticians of the National Institute of Mental Health call the "effective release rate".

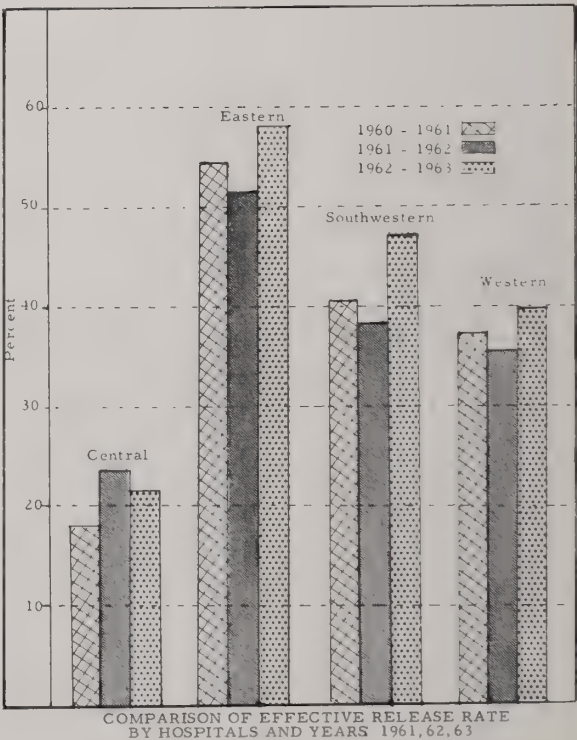
By adding the direct discharge, releases on trial visits, and escapes, and subtracting the returnees from trial visit and escape, an "effective" release "number" for any given period is obtained. This must be related to the total of patients in the hospital; otherwise a large hospital would have a better figure than a small hospital.

The ratio of the release number, then, to the total number of patients possibly involved gives what is known as an "effective release rate".

Example: If 500 patients leave the hospital during a given period and 250 return, the effective release number is 250. If there are 1,000 patients in the hospital, the effective

release rate would be $\frac{250}{1000}$ or 25%.

Effective release rates are computed on the basis of fiscal reporting periods. Therefore, the same patients are not involved. For example, patients released in one year may not return until the following year; so, their return counts against the year they return and not the year they were released. This explains fluctuations in the effective release rate from one year to another. For example, a high number of precariously adjusted pa-



tients "dumped" out of a hospital in December 1963 would seriously injure the effective release rate of 1964 if computations were made by calendar year. Similar "dumping" in June would influence the figures on a fiscal year basis.

For this reason, only a trend extending

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over several years has any real significance. The improved trend in effective releases in Virginia over the past several years is not exciting but it is encouraging and in the right direction.

Because economic and social and cultural factors are significantly different, the effective release rate in the cities is expectedly better than in the counties or rural areas and is therefore computed separately.

Total Counties—Effective Release Rate		
1960-1961	1961-1962	1962-1963
29.0	30.0	32.50
Total Cities—Effective Release Rate		
36.3	40.3	41.51

Because each of Virginia's mental hospitals serve a different section of the State, and therefore a different socio-economic, ethnic or racial population, the effective release rate of each hospital has been separately computed.

	Effective Release Rate		
	1960-1961	1961-1962	1962-1963
Central	18.3	23.5	21.29
Eastern	54.4	51.4	58.11
Southwestern	41.4	38.2	47.50
Western	37.6	35.4	39.88

To speculate on the reasons why one hospital should improve and another lose ground is hazardous in view of the considerations such as "dumping" mentioned earlier.

It is noted, however, that Central's marked improvement in fiscal 1962 is followed by a loss in fiscal 1963. Also, Eastern's loss in fiscal 1962 is countered by great improvement in fiscal 1963.

The encouraging note is that over a three-year period, the improvement is significant

for *all* hospitals individually and collectively.

Intensified efforts by the department's mental hygiene clinics and the cooperation of local health departments in providing aftercare services for patients released from hospitals, have undoubtedly made a major contribution to this overall improvement.

The provision of drugs to indigent patients has probably been the greatest factor. In dollars and cents, this improvement in effective release has tremendous importance. The taxpayer pays less for an outpatient than a patient in the hospital—much less, since room, board, laundry, nursing and recreational services are not involved in caring for outpatients. But the greatest consideration is humane. A patient with his family, in most instances working at a job, or at least helping out in the home is a happier one than the patient in a mental hospital.

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Erythrocyte Glucose-6-Phosphate Dehydrogenase
Its Relation to Disease

Since the early 1920's it has been known that certain antimalarial drugs are capable of producing hemolysis when administered to certain sensitive individuals. In 1948 Earle reported that pamaquine caused hemolysis in 5-10% of American Negroes, but rarely in the Caucasian population.

Following these observations, this phenomenon has been extensively studied. Many other drugs have been found to induce hemolysis in susceptible individuals; the course of the hemolysis has been described; the genetic transfer demonstrated; geographic and ethnic distribution mapped; and various metabolic defects have been found in affected erythrocytes.

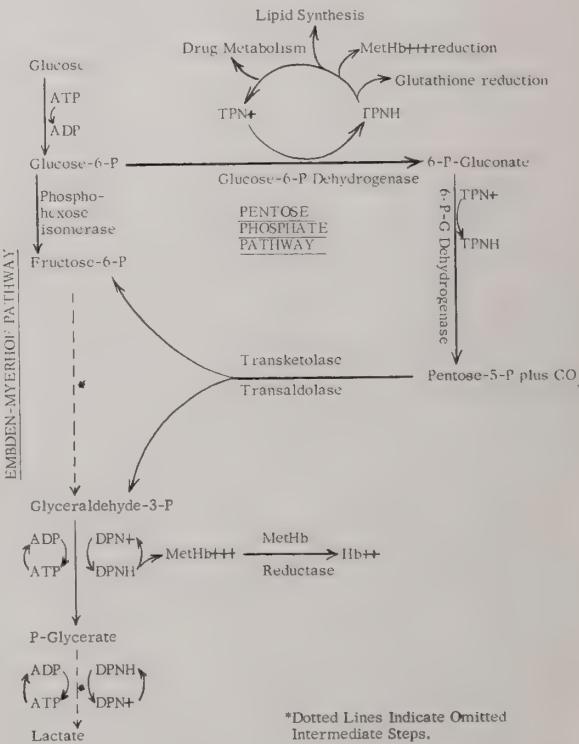
That the basic metabolic defect is intrinsic to the red cell was demonstrated by Dern and associates in 1954. Several specific defects have been subsequently demonstrated. The major enzymatic defect, and perhaps the basic abnormality, is a deficiency of glucose-6-phosphate dehydrogenase (G-6-PD).

In the mature, non-nucleated, red cell the Krebs' cycle for oxidative metabolism is not functional due to the absence of certain intermediate enzymes. The energy from glucose catabolism is produced through at least two metabolic pathways. Approximately 90% of the glucose is catabolized anaerobically through the Embden-Myerhof pathway. In the normal erythrocyte about 10% of the glucose is oxidized through the Pentose Phosphate Pathway, G-6-PD is required for the entrance of glucose-6-phosphate into this pathway. It is this pathway which provides the sole source of reduced triphosphopyridine nucleotide (TPNH) as seen in the illustration.

TPNH is an essential co-factor in many

reductive processes within the erythrocyte including methemoglobin reduction, glutathione reduction, lipid synthesis and drug metabolism. The susceptible erythrocytes probably hemolyze during drug administration because insufficient TPNH is produced to neutralize the oxidant effects of the partially degraded drugs. In addition the red cell envelope has a high lipid content and the impaired lipid synthesis of affected erythrocytes may cause a defect in the cell membrane.

This error of metabolism is transferred by a gene of partial dominance on the X chro-



mosome (sex-linked). Thus affected males (XY) show full expression and affected females full expression (XX) or partial expression (XX).

The defect occurs primarily in tropical and subtropical zones and is reported in most racial groups although it is most common in the darkly pigmented groups and rare among

peoples of Northern European origin. In some Sardinian groups it occurs in up to 48% of the population, in approximately 13% of American Negroes and even higher in some African Negro tribes.

The list of drugs which may cause hemolysis of sensitive erythrocytes is growing rapidly and includes antimalarials, sulfonamides, sulfones, nitrofurans and others (B.A.L., methylene blue, quinidine, fava beans and Vit. K. analogues).

The severity of the hemolysis is dependent upon the dosage of the drug and the duration of administration. Concurrent conditions including viral or bacterial infections, diabetic acidosis and hypoglycemia in the newborn may accentuate the hemolysis, while conditions leading to a young erythrocyte population such as previous hemolysis or blood loss may lessen the degree of hemolysis.

Acute hemolysis begins on the second or third day of drug administration and lasts 7-12 days. Recovery begins about the tenth day with an increase in reticulocytes, hemoglobin and hematocrit, even if the drug is continued, providing the dosage is not increased. For several months, until the mean age of the erythrocytes is such as to render them susceptible, severe hemolysis will not occur on readministration of the drug in similar dosage.

There appear to be several genetic variants of this defect. In the American Negro the red cell G-6-PD is qualitatively normal, but decreased in quantity to 10-15% of that normally present. In affected Caucasians the hemolytic process may be more severe and G-6-PD activity may be completely absent. Several cases of congenital non-spherocytic hemolytic anemia have been reported in which there is a complete absence of G-6-

PD. In these cases (Caucasian males) the enzyme is both quantitatively decreased and qualitatively abnormal.

Thus it appears that this defect is of considerable clinical importance and is responsible for hemolytic processes of heretofore unrecognized etiology. One of the screening procedures will soon be available in the larger clinical laboratories. Several suitable tests have been devised for detection of this defect. Affected red cells have a shortened survival time and decreased osmotic fragility, the latter possibly due to the young mean age of the erythrocytes. Probably the most practical test for the average laboratory is the Methemoglobin Reduction Test. This test is based upon the inability of affected red cells, in the presence of methylene blue, to reduce methemoglobin produced by sodium nitrite. Results may be evaluated visually or with a colorimeter or spectrophotometer.

The defect probably should be searched for routinely in the Negro, as is sickle cell anemia now. In addition to being incriminated in drug induced hemolysis, it appears also to be implicated in some congenital non-spherocytic hemolytic anemias and in some hemolytic disease of the newborn. In the latter instance the hemolysis is rarely severe enough to require exchange transfusion.

Probably Negro blood donors should be screened for the defect and the use of sensitive donor bloods avoided, at least for those recipients likely to receive drugs causing hemolysis of the transfused, sensitive red cells.

R. C. NEALE, JR., M.D.

*Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia*

The Medical Society of Virginia . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Richard E. Palmer, President, at 10:00 A.M. on Wednesday, February 12, 1964, at Society Headquarters. Attending were: Dr. McLemore Birdsong, Dr. Fletcher J. Wright, Jr., Dr. John A. Martin, Dr. Harry J. Warthen, Dr. Mack I. Shanholtz, Dr. Kinloch Nelson, Dr. F. Ashton Carmines, Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. N. Thompson, Dr. Alexander McCausland, Dr. Dennis P. McCarty, Dr. James G. Willis, Dr. W. W. Walton and Dr. Michael A. Puzak. Also attending were: Dr. Thomas S. Edwards, 3rd Vice-President; Dr. W. Callier Salley, Vice-Speaker of the House; Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the American Medical Association; Dr. Hiram Davis, Commissioner, Department of Mental Hygiene and Hospitals; and Mr. John B. Duval and Mr. William Miller, attorneys for the Society.

Special guests were Dr. John T. T. Hundley, Chairman of the Liaison Committee to the Department of Welfare; Mr. William H. King, President, Virginia Medical Service Association; Mr. Robert Denzler, Executive Director, Virginia Medical Service Association; Mr. Roy Battista, Assistant Executive Director, Virginia Medical Service Association; Mr. Dean Grogan, Director of Public Relations, Virginia Medical Service Association; and Mr. Richard M. Nelson, Field Representative of the American Medical Association.

It was reported that recent incidents have caused a number of members to inquire about Society policy with respect to the disciplining of non-members. It was learned that some areas of the State, particularly the northern part, have encountered a number of problems in this regard, and have requested Society assistance. The Medical Society of Virginia has, for many years, operated on the assumption that it should take no action whatever in matters involving non-members.

There was considerable discussion concerning a possible tie-in between licensure and Society membership, but Mr. Duval stated that any such requirement was, for all practical purposes, out of the question. He pointed out the organizational differences between the legal and medical professions.

Dr. Palmer stated that an advertisement sponsored

by three Virginia physicians had raised a question concerning advertising and ethics. Brought out was the fact that the American Medical Association depends a great deal on local custom and ethics do in fact vary considerably from one area to another. This is true in Virginia where some local societies permit announcements to be published in local papers, while some societies very definitely frown on such practice. It was generally agreed that a State Society policy would be helpful.

Dr. Wright moved that since paid announcements, or advertisements, are considered unethical in many areas of the State, Council go on record as opposing such practice and that all component societies be so advised. The motion was seconded and adopted.

Returning to the matter of disciplining non-members, it was learned that there is available literature which treats the subject quite thoroughly. *It was then moved that the matter be tabled until the next meeting of Council and that available literature be sent all Council members for their information and consideration. The motion was seconded and carried.*

Council next considered a request that it approve a State Department of Health project which would make available to the practicing physician a testing procedure quite effective in discovering phenylketonuria. After some discussion, *it was moved by Dr. Wright that the request be approved in principle and that details be worked out by the Society's Committee on Child Health and the Bureau of Maternal and Child Health (State Department of Health). The motion was seconded and adopted.*

Dr. Hundley was introduced and requested to present his thoughts concerning physician participation in the newly implemented Kerr-Mills Program (MAA). He pointed out that physicians have, for many years, provided free medical services under the SLH and other public assistance programs to hospitalize indigents and medically indigents. It was Dr. Hundley's feeling that this same policy should be applied to the MAA portion of Kerr-Mills. The thought was expressed that perhaps Council would be acting a bit hastily in recommending such policy so soon following implementation. It was pointed out, however, that most physicians realize that Kerr-Mills is essentially a service program and that physicians must dedicate themselves to the task of making it succeed.

Dr. Hundley went on to say a state-wide fee

schedule for office and home visits is required by the Department of Health, Education and Welfare, and that his committee is recommending the following:

1. That house calls made under the MAA program be paid at \$5.00 per call with additional payment for mileage of 10¢ per mile (not including the first five miles).
2. That office visits be paid at \$4.00 per visit, and additional office laboratory procedures at 75% of the community average.

Dr. Birdsong moved that Dr. Hundley's recommendation be approved until the next meeting of the Society's House of Delegates. The motion was seconded and adopted.

Following considerable discussion, *it was moved and seconded that the following resolution be approved until the next meeting of the House of Delegates.*

BE IT RESOLVED: That the Council of The Medical Society of Virginia, having previously affirmed the action of the House of Delegates that medical costs of in-patient care to hospitalized patients who are admitted as, and the hospitals paid on an indigent status, be rendered without cost to either the patient or the public agency responsible for the patient care; hereby extends that policy to the in-patient medical care of those patients admitted and treated under the Medical Assistance to the Aged Program.

Dr. McCausland introduced a substitute motion to table the original motion until Council has an opportunity to consider the resolution at greater length. This substitute motion was seconded and adopted.

Council then heard Mr. King discuss the question of whether Blue Shield payments (Virginia Medical Service Association) should be made to practitioners other than Doctors of Medicine. He stated that it was difficult for many subscribers to understand why the services of osteopaths and podiatrists are not covered under the regular standard and comprehensive contracts when they are covered under existing Federal and some large industrial contracts. He covered in detail a report on the subject prepared by the Executive Committee of the Virginia Medical Service Association—pointing out that The Medical Society of Virginia has authorized payments to osteopaths under the Medicare contract and that many large insurance companies now cover the services of these practitioners. He went on to say that 37% of all Blue Shield subscribers are already covered for such services.

A motion was then introduced by Dr. Willis which

would have Council reaffirm its previous recommendation. The motion was seconded.

During the ensuing discussion, it was explained that Council had previously recommended that the Virginia Medical Service Association not amend its contracts in such manner as to cover certain services provided by practitioners other than Doctors of Medicine. Mr. Duval stated that the position of AMA, while strongly opposing association with any group of cultists, called for a reappraisal of the osteopathic situation since this group is apparently moving in a proper and desired direction. AMA has, for all practical purposes, placed the question in the hands of the various state medical societies with the suggestion that they be guided by whether osteopaths are practicing on a purely scientific basis. Mr. Duval added that two-thirds of the nation's osteopaths are currently practicing in states permitting voluntary association of the two professional groups, and that since 1961, 14 state medical societies have taken definitive action in this area. It was further learned that 56 podiatrists and 31 osteopaths are currently licensed in Virginia, and that nearly all osteopaths are licensed to practice without restrictions.

A vote was then taken on the motion by Dr. Willis and it was adopted.

Immediately following a short recess for lunch, Council was requested to give further consideration to Dr. Hundley's suggested resolution concerning physician participation under Medical Assistance for the Aged. *Since Dr. McCausland's motion to table had been passed, it was necessary to introduce a motion to remove the matter from the table. Such a motion was seconded and adopted.*

There followed considerable discussion in which several Councilors expressed the feeling that the question should first be discussed by their local societies. It was explained, however, that the time factor involved made this impractical. *Dr. Wright then introduced a substitute motion which stated that in view of an apparent need for action, members of The Medical Society of Virginia should care for hospitalized MAA patients without charge until the next meeting of the Society's House of Delegates. The motion further requested the State Department of Welfare and Institutions to give consideration to the Blue Cross-Blue Shield approach as used by some other states in the administration of their MAA programs. The motion was seconded and carried.*

It was then requested that Society policy with reference to tobacco advertising in the Virginia Medical Monthly be reviewed. Recent developments, in-

cluding the report of the Surgeon General on smoking and health, prompted the request. It was learned that the American Medical Association neither accepts tobacco advertising nor permits tobacco exhibits at its Annual and Interim Sessions. It was brought out, however, that of 22 state journals surveyed recently, 16 would continue to accept such advertising if offered. Only 4 had decided to discontinue such advertising in the future.

A motion was then introduced calling for the Society's present policy of accepting such advertising to be continued. The motion was seconded. *A motion to table was then seconded and adopted.*

While it was agreed that the tabling action meant that the Society's present policy would be continued, Dr. Warthen was requested to set forth the Society's position in a specially worded statement.

Dr. Warthen, in compliance with Council's request, introduced the following statement which was approved:

"It was the intention of Council that the motion to table discussion regarding the question of tobacco advertising be interpreted as authorization by the Council of continuation of the present policy of advertising tobacco products in the Virginia Medical Monthly and accepting tobacco exhibits at the Annual Meetings of the Society."

It was announced that the time had come for Council to determine whether the Society will again sponsor a luncheon for Virginia's Congressional delegation this spring. The luncheons have proved quite popular and the cost minimal. *A motion to sponsor the luncheon once again was seconded and adopted.*

Council was advised that Dr. Murrell and Dr. William Higgins, Jr., had recently met with representatives of several professions for the purpose of exploring the advantages of a Virginia Association of Professions. Dr. Murrell stated that such an association would, in his opinion, be most worthwhile—particularly since it would join together many of the groups fighting the current trend toward the welfare state. He stated that such associations had proved quite successful in other areas of the country—particularly Michigan. It was estimated that \$300 will be needed from each potential member association if a formal organization is to be realized. *It was then moved and seconded that The Medical Society of Virginia endorse the formation of an Association of Professions and appropriate \$300 as the Society's share of the necessary expense. The motion further urged participation by individual members. The motion was adopted.*

Dr. Murrell reported that the "Health Talk" series televised by WRVA-TV had proved quite successful. Although it had originally been scheduled for 13 consecutive weeks, the station had extended it to 26 weeks. It was learned that the series could have been presented at a much better time if a sponsor had been permitted by the society. It was brought out that The Medical Society of Virginia has, for a number of years, steered away from any financial assistance from commercial organizations. It was the consensus that sponsorship of a television series is a bit different, and it was agreed that it might be well to proceed in this direction.

A motion was then introduced authorizing the Executive Committee to consider such proposals as might be presented by WRVA-TV with reference to commercial firms wishing to sponsor Society programs. Such sponsorship would be subject to committee approval. The motion was seconded and adopted.

Dr. Shanholtz pointed out that State Health Department policy would prevent any Department employee from participating on a program having a commercial sponsor.

Dr. Salley, in commenting on the Constitution and By-Laws, indicated that the Judicial Committee had no new recommendations to offer with regard to the Southwestern Virginia situation. He went on to say that a great deal of thought is being given to changes which may be needed and that those decided upon would be included in the Committee's annual report. *A motion to accept Dr. Salley's progress report was seconded and adopted.*

Dr. Salley then stated that a question had arisen as to whether an action of the House of Delegates, or Council, definitely binds a committee, or whether such committee should be permitted to exercise some discretion in view of subsequent events. Dr. Salley, at the request of the President, had given the question a great deal of thought and stated he did not believe any policy set down by the House of Delegates could be altered. He did believe, however, that any committee should be permitted discretion in consulting with officers and members of Council for purposes having to do with procedure, clarification or implementation. *A motion to accept Dr. Salley's thoughts as a Council ruling was seconded and adopted.*

Following discussion of the Rules of Procedure followed by the House of Delegates, it was moved and passed that the procedure currently in use be employed during the 1964 session. It was agreed that reference to the Rules of Procedure should be in-

cluded in the By-Laws and Dr. Salley agreed to prepare the necessary amendment.

There followed considerable discussion concerning membership of Council. Dr. Salley, as Chairman of the Judicial Committee, had studied the question quite thoroughly and expressed the belief that no one should be an ex officio or voting member of Council unless holding an elective office. It was his feeling that the Speaker of the House should certainly be a voting member. Everyone agreed that Council should avail itself of consultants whenever possible.

It was moved that the Judicial Committee be requested to draw a report incorporating the various changes proposed by its Chairman. The motion was seconded and adopted.

Dr. Barker recalled that in September Council had expressed the wish that the Society co-sponsor a Hospitality Suite at only one AMA meeting each year. During the AMA Interim Session at Portland, the other sponsoring states voted to sponsor a suite at both the Annual and Interim Sessions. This action meant that The Medical Society of Virginia would either have to go along with the majority or withdraw entirely. Both Dr. Barker and Dr. Ball expressed the belief that the suite was worthwhile and that many nice comments about it had been received. *A motion to approve participation at both the Annual and Interim Sessions of AMA was seconded and passed.*

Considered next was a request from the Virginia Joint Council to Improve the Health Care of the Aged for an appropriation of \$125 to help defray expenses incurred when a delegate was sent to the meeting of the National Council last fall. It was explained that the Council had originally been formed under the leadership of The Medical Society of Virginia and had always enjoyed the Society's full support. *It was moved and seconded that the requested appropriation of \$125 be approved.*

An amendment was then introduced requesting the Joint Council to advise the Society of its needs ahead of time whenever possible. The amendment was seconded and adopted.

The original motion, as amended, was then passed.

The Society's Medicare contract came in for its share of discussion, and it was learned that a particular amendment had been found objectionable in part and consequently not approved by the President and Executive Committee. *It was moved and seconded that no further action on the proposed amendment be taken at the present time. The motion carried.*

The Executive Secretary was then directed to send copies of the proposed amendment to each member of Council for study and possible future consideration.

Council was advised that the Woman's Auxiliary is most interested in obtaining approval of a project stressing gun safety in the home. This project has the blessing and guidance of the National Rifle Association and could be of tremendous value. *A motion to approve the project was seconded and adopted.*

Consideration was then given the many conferences over the nation to which The Medical Society of Virginia is invited to send representatives. These include the National Conference on Rural Health, AMA Legal Conference, National Health Forum, Congress on Environmental Health, etc. Everyone agreed that many of the conferences were quite important, and that the President should feel free to authorize representation whenever he deems it to be in the best interest of the Society. *A motion to this effect was seconded and adopted.*

There followed a brief review of Society policy with respect to scientific exhibits, and it was agreed that this policy should remain unchanged. The Society will continue to provide view boxes and other special equipment at no cost to scientific exhibitors. *A formal motion that present policy be continued was seconded and passed.*

Dr. Edwards, on behalf of the Board of Directors of VaMPAC, requested an additional contribution in the amount of \$1,000. He stated that this money is urgently needed for special mailing and educational purposes—particularly as we enter the critical period of an important election year. He took note of the many contributions being made by the Society, and complimented Mr. Smith on his work as Executive Secretary of VaMPAC. Dr. Edwards went on to say that VaMPAC's efforts this year will be directed to so-called "marginal" contests—which conceivably could go either way.

A motion to approve a special contribution of \$1,000 was seconded and adopted.

Mr. Nelson discussed the King-Anderson situation, and stated that medicine must now undertake the greatest letter writing campaign in its history. 50,000 letters are needed from Virginia—5,000 coming from each Congressional District. He revealed that a letter from Dr. Annis to each member of the Society was being mailed on February 14 and suggested a series of telephone conferences as a follow-up. Such conferences have been extremely successful in other states, and the estimated cost would run approximately \$300.

A motion to appropriate \$300 to be used for special telephone conferences was seconded and passed.

Mr. Miller then presented a progress report on those pieces of legislation before the General Assembly holding special interest for the profession. Council was particularly interested to learn that the problem of the clinical psychologists seems headed for a VALC study. The radiation hazards bill had passed the House and no complications were expected in the Senate. Bills favored by the Board of Medical Examiners were reported as doing well. A number of bills having medical implications were in committee, and Mr. Miller indicated that he and Mr. Duval were watching them closely.

Mr. Miller went on to state that the General Assembly is giving serious study to the registration of lobbyists and their activities. This raised the question as to whether Mr. Miller should be registered as a lobbyist for the Society, and the feeling was expressed that the final decision should be left with the Executive Committee. *A motion to this effect was introduced, seconded and adopted.*

Mr. Duval was asked whether he thought Group Health Association of Washington would seek an amendment to the Virginia Code, and he expressed some doubt that a bill would be introduced. Earlier reports had indicated a possibility of GHA seeking legislation which would permit it to operate in Virginia—particularly the northern section.

Two letters were then called to the attention of Council. The first was a letter of appreciation from Dr. Benedict Nagler pertaining to his nomination to receive the annual award of the President's Committee on the Physically Handicapped. The second was from the State Medical Journal Advertising Bureau predicting further decrease in medical journal advertising for the coming year.

The next item to be considered was a proposed European tour arranged especially for the members of The Medical Society of Virginia. It was recalled that a similar tour had been conducted two years ago by Air France and the Automobile Club of Virginia. Although the Society did not officially sponsor the

tour, it did grant approval for the AAA to use the words "especially for" in its material. The proposed tour for 1964 would coincide with the International Symposium on Comparative Endocrinology in Paris from July 19-26.

Dr. Murrell expressed the feeling that if such a tour were sponsored again, it should be built around a truly worthwhile medical meeting. It was agreed that such a trip could only be justified where a really outstanding meeting was involved. *It was then moved and adopted that the proposed tour for 1964 not be approved.*

Dr. Ball reported that the Virginia Council on Health and Medical Care was quite interested in joining with The Medical Society of Virginia in promoting and distributing the new AMA Emergency Medical Identification Card. Such a card, carried on the person of the owner, would spell out conditions and allergies which attending physicians should know about during emergency treatment. *It was moved that the Public Relations Committee consider the proposal as a possible committee project, and request such assistance as might be needed for implementation from the Executive Committee. The motion was seconded and adopted.*

Mr. Nelson advised Council of a National Conference on Nursing being held in Williamsburg and invited the Society to send representatives. He was informed that Dr. John R. Mapp, Chairman of the Society's Committee on Nursing, had definitely planned to attend.

Dr. Palmer asked for comments concerning the new format for Council meetings, and most agreed that the all-day meeting had much to recommend it. *A motion to continue holding morning and afternoon sessions was seconded and adopted.*

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

Approved:

RICHARD E. PALMER, M.D.

President

The Virginia-North Carolina "65" Plan

LAST OCTOBER the House of Delegates of the Society endorsed the principle of a "65" plan and encouraged legislation that would permit insurance companies to act jointly in providing health insurance for persons over 65 for those who wished to buy it.

An enabling bill was prepared and introduced in the legislature by Senators Breedon, Bemiss, and Hagood. The bill passed the General Assembly without opposition.

Governor Harrison endorsed the bill and made the following statement:

"Many of our people will be enabled to prepare for contingencies from their own independent resources and through the good offices of private enterprise. The legislation necessary to make these '65' plans operative in Virginia will have my hearty endorsement when it is presented to the General Assembly of Virginia."

The question is being asked, "Why a '65' Plan?"

Sometimes more pointedly the question is "Is this an attempt to defeat fedicare legislation?"

We think the purpose is a positive one and not one of obstruction. The insurance industry has been making good progress in providing coverage for persons over 65—60% of those over 65 in the United States now have some form of coverage, 5.3 million by Blue Cross and 6 million by insurance companies. Progress must continue or the "ball will be lost on downs". The "65" plans permit companies to pool resources, to offer insurance to persons who are not in good health without a selection process, and to sell the plan using the total agency force in the State, with this selling effort supported by an intense advertising and promotion campaign. It is a positive program which will enable the self-reliant individual to meet his responsibilities through an efficient vehicle of our free enterprise system.

For any health insurance plan to work it should have the understanding of hospitals and physicians. It is not proposed that this plan cover all medical costs. Few economists would recommend that such be attempted.

The starting point for the plan was a premium range considered feasible. Benefits were then designed to cover the areas of cost that would be more beneficial to the enrollee, adhering as much as possible to existing patterns of coverage in order to promote understanding.

The result is a basic plan of hospital and surgical coverage and a supplementary major medical plan. In order to provide major medical coverage for this age group at a saleable price, rather strict inside limits or schedules of eligible benefits are used. It is hoped that the inside limits will be understood not as an attempt to set hospitals' or physicians' charges, but as an attempt to show precisely what limits of benefits can be paid on the basis of the premium charged.

ENNION S. WILLIAMS, M.D.

New Members.

The following new members were received into The Medical Society of Virginia during the month of February:

William Francis Collins, Jr., M.D.,
Richmond

William Nelson Evans, M.D.,
Charlottesville

Russell Dougherty Evett, M.D., Norfolk

Gordon Wayne Fralin, M.D., Roanoke

Enrique Gerszten, M.D., Richmond

Harold Roberts Lipscomb, M.D.,
Alexandria

William Mayo Oppenheimer, M.D.,
Richmond

James Seymour Redmond, Jr., M.D.,
Lynchburg

Michael J. Reilly, M.D., Falls Church

M. Adnan Sharkiah, M.D., Fairfax

Fen'n Antoine Victor, M.D., Roanoke

John William Wilks, M.D., Roanoke

Committees on Medicine and Religion.

Dr. Richard E. Palmer, President of The Medical Society of Virginia, has appointed Dr. Thomas W. Murrell, Jr., Richmond, as chairman of a new committee on Medicine and Religion. Other members are Drs. John Wyatt Davis, Jr., Lynchburg; Charles R. Riley, Richmond; Harry M. Frieden, Norfolk; and Robert S. Hutcheson, Jr., Roanoke.

The Lynchburg Academy of Medicine has also appointed such a committee with Dr. John Wyatt Davis, Jr., as chairman, and Drs. W. H. Barney, W. R. Holland and Kenneth Cooper as members.

Virginia Society of Internal Medicine.

At the annual meeting of this Society held in Charlottesville in February, Dr. James Willis, Fredericksburg, was installed as president. Dr. Emmett Mathews, Richmond, was named president-elect; Dr. Robert K.

Maddock, Norfolk, vice-president; Dr. R. Bryan Grinnan, Norfolk, secretary-treasurer; and Drs. M. Morris Pinckney, Richmond; James Twyman, Charlottesville; and Thomas Gorsuch, Waynesboro, members of the Executive Committee.

Dr. Damron Honored.

Dr. W. D. Damron, Richlands, has been doubly honored by the Lions Club. He was presented with a plaque of appreciation of his outstanding service in the field of sight conservation and he was made an honorary member of the Club. Dr. Damron is the first person ever to be selected as an honorary member of the local club.

Dr. W. Allen Thurman, Jr.,

Has begun work as radiologist and head of the x-ray department of the Southside Community Hospital in Farmville. He was engaged in private practice at Vinton until 1961 when he left to take specialized training in radiology at the University of Virginia.

New Officers.

Since the list published in the March issue of the Monthly, the following component societies have reported new officers for 1964:

Buchanan-Dickenson County Medical Society

President—Dr. Robert W. Olwine,
Grundy

Secretary—Dr. Ralph W. Hess, Grundy
(re-elected)

Wise County Medical Society

President—Dr. U. S. Gonzalez, Norton

Vice-presidents—Dr. D. B. Jones, Wise

Dr. N. S. Propper, Wise

Dr. Frank Hastings, Wise

Secretary-Treasurer—Dr. Joseph M.
Straughan, Wise

Mid-Tidewater Medical Society

President—Dr. William B. Brown,
Gloucester

President-Elect—Dr. Shirley Olsson,
West Point

Treasurer—Dr. W. H. Hosfield,
West Point

Secretary—Dr. M. H. Harris, West Point

Medical Association of Valley of Virginia.

The next meeting of this Association will be held at the Homestead, Hot Springs, May 16 and 17. The program will be on The Emergency Patient and will be presented by the Medical College of Virginia. The tentative program is as follows: The Emergency Room as the Family Doctor. Changing Patterns by Dr. Kinloch Nelson; The Uses and Misuses of the Emergency Room by Dr. G. Hilkovitz; The Treatment of Common Medical Emergencies by Dr. W. T. Thompson, Jr.; The Management of the Psychiatric Emergency in the Emergency Room by Dr. Henry Lederer; The Treatment of Common Pediatric Emergencies by Dr. William Paupus; and The Emergency Treatment of Head Injuries by Dr. William Collins. Dr. Joseph Stephens, Associate Professor of Psychiatry at Johns Hopkins Medical School, will be the after-dinner speaker, his subject being Hypnosis.

The American Proctologic Society

Will meet jointly with the Section of Proctology of the British Royal Society of Medicine in Philadelphia, Pennsylvania, May 9-14, 1964. In celebration of the 65th anniversary of its organization, the Society has arranged a unique scientific program covering the world-wide diagnosis and treatment of diseases of the anus, rectum and colon.

In addition to a group of 50 proctologists coming from the British Isles, authorities in this surgical specialty from 47 countries around the world will appear on the program. Among these will be rectal surgeons from Russia and other nations behind the "Iron Curtain", from Israel and several

Arab countries, from Australia, New Zealand, Pakistan, India, Hong Kong, Japan, and representatives from most of the countries of Europe and South America.

Papers on Otolaryngology.

The program committee of the Section on Otolaryngology for the Southern Medical Association announces that abstracts of papers will be accepted to May 1st for consideration for presentation at the 58th annual meeting of the Association in Memphis, November 16-19. For further information, write the section secretary, Dr. Neil Callahan, 506 Professional Building, Portsmouth, Virginia 23704.

Southwestern Virginia Medical Society.

The Spring meeting of this Society was held on April 2nd in Radford under the presidency of Dr. Thomas W. Green, Bristol. The following scientific program was presented: Use of Echo-Encephalogram in Intracranial Lesions by Drs. Edgar N. Weaver and J. B. Campbell, Roanoke; Recent Advances in Treatment of Herpes Keratitis by Dr. E. Milla Cube, Radford; Systemic Lupus Erythematosus and Bronchiectasis by Dr. Harry P. Clause, Jr., Roanoke; Case Report of Hypertension by Dr. R. F. Bondurant, Roanoke; After Gastrectomy, What Next by Dr. Blake Fawcett, Radford; and Recent Advances in Tissue and Organ Transplantation by Dr. Leslie E. Rudolf, Charlottesville (Guest Speaker).

At the evening session, guest speaker was Dr. J. B. Rhine, Durham, North Carolina, and his subject was Exploration of the Hidden Channels of the Mind.

Dr. William G. Thurman

Has been appointed chairman of the department of pediatrics and first incumbent of the Benjamin Armistead Shepherd Chair in pediatrics. He is currently serving as chairman of the department of pediatrics and as attending pediatrician of the Memorial Sloan-Kettering Cancer Center in

New York. A native of Jacksonville, Florida, Dr. Thurman is a graduate of McGill University. He will assume his duties on July 1st.

Dr. James Edwin Wood, III,

Has been appointed to the chair of cardiovascular research established at the University of Virginia by the Virginia Heart Association and seven member chapters. He is now associate professor of medicine at the Medical College of Georgia and serves as director of the Georgia Heart Association Laboratory for Cardiovascular Research. He is also director of the graduate training program in clinical cardiovascular investigation.

Dr. Wood is a native of Charlottesville and his father is professor of internal medicine at the University and retired two years ago as head of the cardiology section at the University.

Markle Scholarships.

Two Virginia medical school faculty members have been appointed Markle scholars in academic medicine. They are Dr. William R. Harlan, Jr., of the Medical College of Virginia, and Dr. John Staige Davis, IV, of the University of Virginia.

Twenty-five Markle scholars were appointed in the United States this year. Each appointment provides a \$30,000 grant to the medical school where the scholar teaches and does research. The funds are paid at the rate of \$6000 a year.

Dr. Harlan is assistant professor of medicine and is director of the clinical research center, a unique 10-bed unit designed to accommodate patients involved in certain approved research studies.

Dr. Davis is an instructor and a rheumatologist and he recently was awarded a \$60,000 fellowship for research in rheumatism and arthritic disease. He is assistant director of the arthritis clinic at the University.

Wanted.

From June 1 to 27, 1964, a physician with Virginia license, in small general practice (no obstetrics), plus some part-time emergency room work in Washington, D. C. suburb. Write or phone Mrs. K. Thompson, Suite 307, Fairfax Medical Center, Fairfax, Virginia. Telephone 273-1660. (*Adv.*)

Physician Wanted.

Staff Psychiatrist, to assist three Psychiatrists, 109-bed psychiatric service. Teaching affiliation with Medical College of Virginia. Excellent opportunity for teaching and research. Salary up to \$16,245, depending on qualifications. Many fringe benefits. Board diplomate or board eligible and license any state required. Write Chief of Staff, VA Hospital, Richmond, Virginia 23225. (*Adv.*)

Residents Wanted.

Two pulmonary disease residencies. 200-bed section, VA Hospital, Richmond. Affiliated with Medical College of Virginia. Offers training in diagnostic facilities, treatment acute and chronic pulmonary diseases including tuberculosis. Research available. U. S. Citizenship required. \$5575 a year. Write Chief of Staff, VA Hospital, Richmond, Virginia 23225. (*Adv.*)

Associates Wanted.

Generalists, Richmond, Virginia, environs. Clinic-type practice. Will teach or may do limited surgery and EENT if interested. Salary with extras first, then partnership. Send complete biography to #80, care the Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Golden Opportunity

For physician who needs slower pace. Five-day week, under forty hours. Social Security and insurance. Class A school, good command of English essential. Editorial and supervisory, medical publishing. Partial disability acceptable. Send resume, care Med-

ical Director, Box 350, Hagerstown, Maryland. (*Adv.*)

Wanted

Certified or Board eligible pediatrician and orthopedist who would accept an unusual opportunity. Write #90 care the Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Psychiatry Residence

For private practitioners who have had a minimum of four years practice time, armed forces time or residency training other than psychiatry. Full approved program for three years; adults and children; inpatients and outpatients; neurotics and psychotics; al-

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Obituaries

Dr. Reuben Barnes Ware,

Amherst, died February 8th at the age of ninety years. He was a native of Amherst County and a graduate of the Medical College of Virginia in 1895. Dr. Ware began his practice at Lowesville but moved to Amherst in 1912. In 1900 and 1902, he served two terms as a member of the Virginia House of Delegates. Dr. Ware had been a member of The Medical Society of Virginia for sixty-seven years.

He is survived by three sons and five daughters.

Dr. Allie Dexter Morgan,

Norfolk, died February 2nd at the age of seventy-eight. He received his medical degree from the Medical College of Virginia in 1916 and began his practice in Norfolk in 1919, where he was an eye, ear, nose and throat specialist. Dr. Morgan was on the medical staffs of Norfolk General, Leigh

Memorial, De Paul and Kings Daughters hospitals. He was a Mason, a member of the Scottish Rites and Knights Templars, a Shriner and a member of the Royal Order of Jesters. Dr. Morgan had been a member of The Medical Society of Virginia for forty-three years.

His wife survives him.

Dr. Frederic Jefferson Kellam,

Alexandria, died at his winter home in Fort Lauderdale, Florida, on January 28th. He was seventy-three years of age and a graduate of the Medical College of Virginia in 1915. Dr. Kellam started practice in Mineral, Virginia, and later moved to Indiana, Pennsylvania, where he was surgeon for the Pittsburgh Coal Company. He retired in 1961 and moved to Alexandria. Dr. Kellam had been a member of The Medical Society of Virginia since 1915.

His wife, a daughter, and ten brothers survive him.

Dr. Andrew Daniel Parson,

Age 74 years, prominent and highly respected Richlands physician, died February 12, 1964, following an illness which had disabled him for approximately one year. He was a graduate of the School of Pharmacy in 1912 and the Medical College of Virginia in 1916 and he had postgraduate training at Tulane University in urology. A veteran of World War I, Dr. Parson served as a first lieutenant in the Medical Corps aboard a British troop ship. He practiced medicine for forty-two years, chiefly in Stonega, Raven, and Richlands and was presented his 50-year pin in pharmacy in 1962. He became a member of the Clinch Valley Clinic Hospital Staff in 1942. He was past president of the Tazewell County Medical Society and had been a member of The Medical Society of Virginia since 1918, the American Medical Association, Richlands Masonic Lodge, Scottish Rite Bodies, and Kazim Temple of Roanoke, and the American Legion. He was an Elder in the Richlands Presbyterian Church and a teacher of the men's Bible Class.

Surviving are his wife, Mrs. Anne Mabe Parson, a daughter, Mrs. Robert Paine, his son-in-law, Dr. Robert Paine, and two grandchildren of Salem, Va.

WHEREAS, we, members of the Tazewell County Medical Society, recognizing our great loss in the passing of Dr. Parson, wish to state that we regarded him as being a Christian gentleman, an honest man, a respected and conscientious physician, and a willing worker. We and the community will miss his cheerful nature and his many services and kindnesses to us all.

NOW, THEREFORE, BE IT RESOLVED that we convey to his family our sincere sympathy and our deep respect for his memory and that a copy of this resolution be spread upon the minutes of the Tazewell County Medical Society, a copy published in the Virginia Medical Monthly, and a copy sent to his family.

GEORGE D. VERMILYA, M.D.
JAMES M. PEERY, M.D.
JOSEPH A. ROBINSON, M.D., Committee

Dr. Garcin.

It is with regret that we record the death of Dr. Ramon David Garcin, Jr., of Richmond.

He is survived by his wife, two daughters, a sister and a brother.

Dr. Garcin, the son of Dr. Ramon David Garcin, Sr. and Mrs. Mary Jackson Garcin, was born in Richmond, on February 8, 1899, and died on November 8, 1963.

His early education began in the Richmond Public Schools on Church Hill, and he was graduated from Richmond Academy. He then attended Washington and Lee University where he received his Bachelor's Degree in 1921. Following this, he was associated with the Chesapeake and Potomac Telephone Company. In 1925 he entered Medical College of Virginia and was graduated in 1929. He served his internship in Internal Medicine in Kings County Hospital in Brooklyn, New York and practiced in Brooklyn where he was associated with Kings County Hospital and Cumberland Hospital. He remained in private practice in New York from 1932 to 1941 at which time he returned to Richmond and maintained his practice here until he enlisted in the Navy in World War II. After World War II, he returned to Richmond and continued his practice.

In addition to being a veteran of World War I and World War II, he was a member of the American Legion, Post 151. He was a former Post Commander and a former chairman of the American Legion Oratorical Committee for Virginia. He was a member of 40 & 8 and held many important posts in that organization, one of which was to foster several students through different nurses training schools in the City of Richmond.

He was a member of the Broadus Memorial Baptist Church, Masonic Lodge No. 10, AF&AM, Eastern Gate Lions Club which he served as president and the East End Business Men's Association. He was a staff member of several hospitals in Richmond.

In writing this resolution it is our first thought to pay tribute to the memory of this very fine physician, gentleman and one who helped many people. Those who knew him best knew of some of these things that were never known to the general public.

THEREFORE BE IT RESOLVED by the Richmond Academy of Medicine, on this 11th day of February 1964, that we express our sincere and heartfelt sympathy to the bereaved family of our departed friend and colleague, to whom this memorial shall be sent, a copy to be made a part of the permanent records of this Academy and a copy submitted to The Medical Society of Virginia.

J. R. GRINELS, M.D.
R. C. SIERSEMA, M.D.
JAMES B. BLACK, JR., M.D.

Guest Editorial

A Legislative Accouchement

IN THE HOPE OF CURTAILING by 50% or more the carnage on our highways a distillate of 15 years of study and research on the medical aspects of this problem was presented in the form of seven proposals by the Albemarle County Medical Society's Committee on Highway Safety to the Virginia Advisory Legislative Committee on Highway Safety. These seven proposals in the form of a reprint¹ were also presented to every member of the Virginia State Legislature and to several newspapers. Although these proposals have been endorsed in principle by the Albemarle County Medical Society, the Virginia Academy of General Practice, the Virginia State Board of Health, the Council of The Medical Society of Virginia and many service clubs and contain several new aspects of this problem not one word or letter of inquiry was received in regard to them.

Among these important proposals were: (1) the requirement of a certificate from an approved driver training course for beginners at a minimum age of 16 years and certain other applicants; (2) a certificate from the State Board of Health stating that they had no adverse reports regarding the mental or physical health of the applicant (This proposal required the mandatory reporting by physicians of such defects as they felt would impair driving skill or judgment.); (3) the establishment of medical referral committees to rule on such conditions when contested by the applicant; (4) a new type of graded driving permit containing a provision for health problems and for the listing of previous convictions; (5) a single breath test for determining the alcohol blood level in those accused of driving while drinking, the blood test to be used only in certain instances, such as unconsciousness and death; the lowering of the present

ridiculous figure of .15% alcohol blood level to .05% or to a compromise level of .10% was urged along with mandatory laws for those so convicted; (6) mandatory laws for those convicted of speed and reckless driving; (7) to require the manufacturers to provide as standard equipment certain proven alterations in design for the protection of the occupants.

We felt that neither the public nor their legislative representatives were yet ready to do anything to curtail the highway carnage but were naive enough to hope that something constructive would be done at this session in between the lighter moments of legislative playtime. But, again the legislative mountain has gone into labor and again has brought forth a mouse.

FLETCHER D. WOODWARD, M.D.

*400 Locust Avenue
Charlottesville, Virginia*

REFERENCE

1. Woodward, Fletcher D., Seven Medical Proposals to Promote Highway Safety, *Virginia Medical Monthly*, Vol. 90, Pages 611-618, December, 1963.

Prevention and Treatment of Transfusion Reactions

HALCOTT T. HADEN, M.D.
Richmond, Virginia

Serious transfusion reactions continue to occur despite modern blood banking techniques. Some factors in prevention are discussed and treatment of these reactions is reviewed.

BLOOD TRANSFUSION has become so commonplace in modern medical practice that there is now little hesitancy in its use. Currently approximately five million units of whole blood are administered annually in the United States. The highly specialized science of blood banking has reached the point where serious reactions are quite rare. Nevertheless, a recent textbook¹ gives the incidence of hemolytic transfusion reactions as 0.1 to 0.5%. Since approximately 50% of hemolytic reactions are fatal, the gross fatality rate in the United States must be at least several thousand annually. It has been suggested that the incidence of hemolytic reactions due to incompatible blood has about reached an irreducible minimum since most are due not to inadequate techniques but to human error. Reactions will certainly continue to occur. It is therefore important for all physicians utilizing transfusions to make every effort to avoid reactions and to have in mind some plan for immediate treatment in case a reaction occurs.

The technical details of typing and matching blood are of course best left to

the blood bank laboratory. The physician's major role in prevention lies in avoiding any unnecessary transfusions. Each order for blood transfusion should be given serious consideration and the dangers balanced against the needs of the patient. Reliance on an arbitrary hemoglobin level or ordering routine transfusions prior to surgical procedures often leads to excessive use of blood. Crosby, in a now famous editorial on "Misuse of Blood Transfusion",² points out: "Anemia alone is not a sufficient justification. Much of a patient's 15 grams of hemoglobin is a reserve against strenuous exertion . . . For a sedentary life, 10 grams is often sufficient . . . Acute blood loss also must be regarded with critical judgment. A healthy adult can sustain the rapid loss of 1/3 of his blood volume without serious derangement of his circulatory stability." He concludes; "Thoughtless prescription of blood transfusion is playing Russian Roulette with bottles of blood instead of a revolver. While the odds are in the physician's favor that nothing will go wrong, the patient takes the risk." The legal implications also might be considered. "A person would be liable for damages following and caused by a transfusion that was not indicated by the facts of the case. Even if no negligence could be proved . . . an action for damages would lie if the plaintiff could prove that the transfusion was not indicated medically."²

The physician may also aid in the prevention of clerical errors or errors of identification. This, of course, applies only to those physicians who may be directly involved in obtaining blood samples or administering the transfusion. However, the importance of guarding against clerical errors cannot be

HADEN, H. T., M.D., *Chief, Hematology Section and Radioisotope Laboratory, VA Hospital.*

overemphasized, since this is where the major problem lies. With modern blood banking techniques, the chance of a hemolytic reaction due to properly matched blood given to the right patient is extremely small. An estimated 75% of fatal transfusion reactions in the United States are the result of misidentification of patients or their blood samples.³ This commonly occurs when patients with similar names are in the same ward or operating room. Errors may also occur when beds are exchanged or the wrong label may be attached to the blood sample. Since misidentification of patients and mislabelling of blood samples are the major causes of fatal transfusion reactions, it is mandatory that all labels be double checked and identification verified when the crossmatch sample is obtained and when the transfusion is administered.

Allergic Reactions

Allergic reactions are manifested by the development of pruritis, urticaria, facial edema, asthma, or other manifestations of allergy. Rarely these reactions produce severe asthma or anaphylactic shock. Most allergic reactions are due to the presence in the blood of an allergen to which the recipient is sensitive. Most such allergens are thought to be derived from food or occasionally from medication. Donors therefore should be fasting and not receiving medications. Allergic reactions can usually be easily differentiated from other types of reaction. They may not occur until the transfusion is completed but the more severe reactions tend to occur earlier during the transfusion. Unless the reaction is mild or occurs at completion, the transfusion should usually be discontinued. Treatment consists of administration of antihistamines, perhaps supplemented by calamine lotion or cold wet compresses. More severe reactions may require epinephrine or adrenal steroids. Allergic reactions are much more common in individuals who have a history of allergy. In patients with an allergic history, an antihistamine such as diphenhydramine (Bena-

dryl) 50 mgm or tripeleennamine (Pyribenzamine) 100 mgm should be given orally an hour before transfusion and repeated at the time the transfusion is started.

Febrile or Pyrogenic Reactions

Febrile reactions due to transfusion are still fairly common despite improvements in apparatus and technique. The temperature rise usually begins 2-4 hours after beginning the transfusion and may be preceded by a chill. The temperature usually returns to normal in 8 to 12 hours but there may be fever on the following day. The cause is probably pyrogenic contaminants in the equipment or the presence of leukoagglutinins in the recipient. Pyrogenic reactions are usually mild but they must be differentiated from the more serious hemolytic reaction. The pyrogenic reaction begins later, the patient frequently has no symptoms other than mild chilliness, and does not appear seriously ill. Treatment consists of salicylates or analgesics as needed. If the pyrogenic reaction is due to leukoagglutinins, it may be prevented by giving buffy-coat free blood.

Hemolytic Reactions

Unless masked by illness or anesthesia, the symptoms of reaction to incompatible blood usually occur early, after about 50-100 cc's have been transfused. A full blown hemolytic reaction may be manifested by flushing of the face, headache, pain in the lumbar region, constricting substernal pain, nausea, and chills followed by fever. Patients under general anesthesia will of course not manifest these symptoms and the reaction may go unrecognized. However, hemolytic reaction during surgery may produce hypotension and may cause a generalized bleeding tendency. Occasionally in non-anesthetized patients the symptoms may be quite mild and may be no different from those of the pyrogenic reaction.

Though a number of uncommon blood groups have been detected, practically all

hemolytic reactions are due to incompatibility of ABO or Rh antigens. Present techniques are satisfactory for detecting these antigens so that, as mentioned before, if the right blood is given to the right patient, fatal reactions can be practically eliminated. The amount of incompatible blood given is important. Fatal reactions have occurred only when at least 200 cc's have been administered. It is therefore wise to keep patients under close observation until the first 50-100 cc's is given.

If symptoms of hemolytic reaction occur, the transfusion should, of course, be stopped immediately. Steps should then be taken to confirm the diagnosis. The blood remaining in the donor bottle and a fresh blood sample from the recipient should be sent immediately to the blood bank with notification of the reaction. A blood sample should be centrifuged immediately and the plasma examined for the presence of hemoglobin. If significant hemolysis has occurred, the plasma will be pink or red. A urine sample should also be obtained and examined for hemoglobinuria. Evaluation and treatment of the patient should, of course, begin immediately, while steps are being taken to confirm the diagnosis. If hypotension or shock has developed, this should be treated promptly with intravenous infusions containing a vasopressor agent. Since a transfusion had already been ordered, the patient may well need blood, and freshly matched compatible blood should be given if needed to combat shock.

There has previously been a clinical dilemma regarding the amount of fluid which should be administered early after a reaction, before it is known whether or not renal failure will develop. Production of a diuresis appears to be beneficial but a large fluid load would be a hazard if oliguria ensued. This problem seems to have been largely solved by the use of intravenous mannitol to produce an osmotic diuresis. The mannitol should be given as soon as a hemolytic reaction is diagnosed or suspected, but it

may help restore renal function even after oliguria has developed. Barry and Crosby⁴ have recently recommended a dose of 20 gms. of 20% mannitol to be given rapidly intravenously in a period of about five minutes. This should produce a prompt diuresis. Urine output is then recorded hourly. Oral and intravenous fluids are given to replace the urinary loss and to maintain a fluid load sufficient to produce a diuresis of at least 100 cc's per hour. If urine output falls below 100 cc's per hour for a two-hour period, mannitol is repeated. However, a patient who cannot produce over 100 cc's per hour should not receive over 100 gms. of mannitol in a 24-hour period. A diuresis should probably be maintained for several days. Production of a diuresis in this manner appears to prevent the development of renal failure in some cases though the mechanism is unknown. If diuresis does not occur after mannitol injection, then the patient should be treated for oliguric renal failure, including restriction of fluid intake.

The development of a hemorrhagic diathesis from transfusion reaction in patients undergoing surgery is well known and should suggest the diagnosis. This is usually associated with hypofibrinogenemia and activation of fibrinolysins. It may also be accompanied by decreased prothrombin and platelets. Therapy is primarily replacement of fibrinogen. In addition, success has recently been reported with the use of epsilon-amino-caproic acid as an inhibitor of fibrinolysis.⁵

The administration of alkali to produce an alkaline urine was standard practice for a number of years. No beneficial effect of alkalization has been substantiated, however, and this procedure is seldom recommended now. The use of adrenal steroids in this condition has also been suggested and has been thought to be beneficial by some authors. It has been shown that steroids will not prevent hemolysis of incompatible cells.⁷ It is still possible that steroids might exert a beneficial effect on some other phase of the reaction but this is doubtful.

Infected Blood

Reactions due to infected blood are fortunately rare, for they are usually fatal. Occasionally the blood sample is contaminated with organisms which will grow at refrigerator temperature and the blood may then become grossly contaminated. The organisms may be demonstrable on direct smear from the stored blood. Treatment of this type of reaction consists of supportive measures with vasopressors and adrenal steroids together with antibiotics. Reactions to infected blood are easier to prevent than to treat. Continuous refrigeration should be maintained until the blood is used and a blood bottle into which entry has been made should be used promptly.

Summary

Some factors of importance in prevention of transfusion reactions are discussed and present treatment of the usual types of transfusion reactions is briefly reviewed.

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Annual Meeting The Medical Society of Virginia The Golden Triangle, Norfolk October 11-14, 1964

The Urinary Tract and Spina Bifida Cystica

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The histories of 76 patients with spina bifida cystica have been reviewed with special emphasis on the urologic status of these individuals. Of those patients who received urologic evaluation approximately three out of four had a major urologic abnormality. The importance of early complete urologic study and of regular follow-up examination is shown.

THAT PATIENTS with meningoceles or meningomyeloceles are apt to be incontinent is well known.^{1,2,3} It is also recognized that these people may have more serious, even fatal, underlying urologic problems.^{4,5} However, the incidence, extent and eventual outcome of such problems is not well recorded. We have attempted to evaluate these factors as seen at this institution.

Hospital records from 1938 through 1962 were reviewed and those patients diagnosed as having either meningoceles or meningomyeloceles were selected for study. They were then classified by age, sex, location of lesion, neurologic and orthopedic disability and history of previous surgery. Urologic evaluation and follow-up were analyzed in detail. No distinction was made between

meningoceles and meningomyeloceles since it was often impossible to classify a given patient on the basis of the available information.

The entire group consisted of 76 patients. There were 32 males (42.4%) and 44 females (57.8%). Most of the defects were in the lumbar or lumbosacral region (table 1). Over half of the group was first seen

TABLE 1
LOCATION OF SPINAL DEFECT (76 PATIENTS)

LOCATION	Number	Percent
Thoracic.....	1	1.3
Thoracolumbar.....	6	7.9
Lumbar.....	34	44.8
Lumbosacral.....	22	31.0
Sacral.....	6	7.9
Thoracolumbosacral.....	1	1.3
Unknown.....	6	7.9

at less than one year of age and another 18% were seen before five years of age (table 2). Sixty per cent were first seen

TABLE 2
AGE AT WHICH FIRST SEEN (76 PATIENTS)

AGE	Number	Percent
Less Than 1.....	45	59.0
1-5.....	14	18.4
6-12.....	7	9.2
13-20.....	4	5.2
21 or Over.....	6	7.9

for neurosurgical problems, 22% for urologic problems and 8% for orthopedic problems. Another 5% came for evaluation of both orthopedic and urologic problems (table 3).

Neurologic examination was recorded for 51 patients (table 4). Only one in this group had no definite neurologic abnormal-

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TABLE 3
REASON FIRST SEEN (76 PATIENTS)

REASON	Number	Percent
Neurosurgical.....	46	60.5
Urologic.....	17	22.4
Orthopedic.....	6	7.9
Urologic + Orthopedic.....	4	5.2
Other.....	2	2.6
Unknown.....	1	1.3

TABLE 4
NEUROLOGIC EXAM (51 PATIENTS)

Findings	Number	Percent
Normal.....	1	2.0
Hydrocephalus.....	17	33.3
Paraplegia.....	18	35.3
Partial Paraplegia or Weakness...	20	39.3
Saddle Anesthesia.....	24	47.1

ity. Seventeen patients had complete paraplegia and another 21 had either partial paraplegia or paresis of the lower extremities. Seventeen had hydrocephalus.

Thirty-six patients had orthopedic examinations recorded (table 5). Four of these

TABLE 5
ORTHOPEDIC EXAM (36 PATIENTS)

FINDINGS	Number	Percent
Normal.....	4	11.1
Club Feet.....	23	63.9
Dislocated Hips.....	10	27.8
Other Abnormalities.....	9	25.0

had no abnormalities. Twenty-three had club feet; 10 had dislocated hips and nine had other orthopedic abnormalities. Nine of these patients had more than one orthopedic problem.

One or more operations had been performed on 38 of the 76 patients when they were first seen here. Thirty-two had had their spinal lesions repaired. Fifteen had had one or more orthopedic procedures and four had had urologic procedures. Thirteen patients had undergone more than one type of surgical procedure.

Initial Urologic Evaluation

Complete or partial urologic evaluation was performed in 39 patients and findings are summarized in table 6. Twenty-six

TABLE 6
UROLOGIC EVALUATION*

EXAM	Number	Percent
UREA		
Normal.....	31/36	86.1
Elevated.....	5/36	13.9
IVP		
Normal.....	40/72	55.6
Hydronephrosis.....	21/72	29.2
Other Abnormalities.....	7/72	9.7
CYSTOURETHROGRAM		
Normal.....	9/31	29.1
Trabeculation.....	16/31	51.6
Reflux.....	11/31	33.9
CYSTOENDOSCOPY		
Normal.....	1/19	5.3
Trabeculation.....	15/19	78.0
Abnormal Bladder Neck.....	2/19	10.5
Abnormal Ureteral Orifices...	7/19	36.8

*The numerators and denominators in the figures pertaining to abnormalities found on IVP refer to the number of kidneys involved. All other figures refer to the number of patients tested.

(66.6%) were studied within one year of the time they were first seen. Eight (20.5%) were not urologically evaluated until more than five years had elapsed from their first visit.

Mention of urologic symptoms was made in 46 charts. Of these, 40 (87%) had urinary incontinence. (Twenty-seven patients had fecal incontinence.) Five patients (10.8%) either had to strain to void or had a history of urinary retention. Only four patients (8.7%) had no urinary symptoms.

Thirty-nine patients had a historical survey of previous urinary tract infections (table 7). Almost half of these had no history of infection. Six had had only one or two infections and 14 had had repeated infections. This problem may commence at any age.

Sixty patients had urinalyses recorded on their charts. Twenty-seven of these (45%) were abnormal. Thirteen of the 60

(21.7%) had albuminuria and thirty (50%) had some degree of pyuria. Twenty-five of 27 urine cultures (92.5%) were positive. Of 36 blood urea determinations

were interpreted as being normal in two. Eight bladders were hypotonic and four were hypertonic.

Thirty-seven patients did not receive

TABLE 7
HISTORY OF INFECTIONS

	Number of Patients	Percent	Age First Began	Number of Patients	Percent
None.....	19/39	48.7	Less than 1	3/15	20.0
Less Than Three.....	6/39	15.4	1-5	5/15	33.3
Repeated.....	14/39	35.9	6-12	4/15	26.6
			13-20	0/15	0.0
			21 or over	3/15	20.0

31 (86.1%) were normal and five (13.9%) were between 40 and 80 mgm %. None of the patients had a blood urea over 80 mgm % at the time of initial urologic evaluation.

Intravenous pyelograms were performed on 35 patients. One patient did not have an intravenous pyelogram but had bilateral retrograde pyelograms and is included here as a thirty-sixth patient. Twenty pyelograms (55.6%) were normal. Of the remaining 16 studies, one side was normal in four. Stated differently, 28 of 72 kidneys studied (38.9%) were abnormal. Two kidneys had been removed to provide shunts for treatment of hydrocephalus. Nine showed moderate hydronephrosis and 12 were markedly hydronephrotic. Four showed only changes of phelonephritis and four kidneys had obviously decreased function (three of these had a second abnormality).

Of 31 cystograms, nine (29.1%) were normal. Sixteen (51.7%) showed evidence of trabeculation and reflux on one or both sides was demonstrated in 11 (33.9%).

Cystoscopy was done on 19 patients and findings were normal in only one (5.3%). Fifteen (78%) had trabeculation; two (10.5%) were considered to have an abnormal bladder neck and seven (36.8%) had an abnormality of one or both ureteral orifices.

Cystometrics, performed on 14 patients,

urologic evaluation. Thirty-four of these were less than one year of age when first seen and most had a very poor prognosis due to their neurologic lesions. It is of interest that 11 of these 37 patients (29.8%) had at least one abnormal urinalysis recorded on their charts.

While it is informative to categorize defects as has been done above, a more significant estimate of the urologic problem in these patients will be found when we discover how many had any major abnormality. In order to limit ourselves to unquestionable signs of disease, we determined how many patients had elevated blood ureas, hydronephroses, trabeculation or reflux by cystogram or abnormal findings at cystoscopy. Of the 39 patients who had urologic evaluation, 30 (77%) had one or more of these manifestations of a serious problem.

An effort was made to determine whether any subgroup of patients was more prone to urologic disease. Patients were divided according to sex, location of lesion, neurologic abnormalities, orthopedic findings, age at time of first urologic workup and whether or not the spinal defect had been repaired. Subgroups within each of these categories were then compared with the total number of patients studied by means of the findings on urinalysis, results of urine cultures, blood ureas, residual urine determinations and pyelographic, cystographic

studies. No statistically significant correlations could be made; though in the great majority of attempts, the size of the sample was too small to permit such a correlation.

One patient's urea which was initially elevated became normal during this period. Of twelve ureas done less than one year after initial evaluation, nine were normal and

TABLE 8
UROLOGIC WORKUP BY AGE

AGE AT TIME OF WORKUP	R.U. Over 1 Ounce	Elevated Urea	Abnormal IVP	Abnormal Cystogram	Abnormal Cystoen- dосcopy
Less Than 5.....	7/9	3/15	7/15	8/13	6/7
6-12.....	1/3	0/9	2/8	5/6	2/2
13-20.....	2/5	1/6	1/6	4/6	5/5
Over 21.....	0/3	1/5	4/5	5/6	5/5

All denominators refer to the total number of patients in each category.

Treatment

Treatment administered to these patients was quite variable. Fifteen received no treatment at all or symptomatic treatment only. The latter consisted chiefly of attempts to improve the patient's voiding pattern or keep him dry. Seven patients underwent formation of an ileal conduit and two others had a suprapubic cystostomy performed at the time of initial evaluation. Six were given antibacterial therapy.

Follow-Up

Of the 39 patients who had urologic evaluation, 19 (49.6%) were followed from

three were between 40 and 80 mgm %. The three patients with elevations had normal ureas at the time of initial evaluation. Fifteen blood ureas were performed on 12 patients between one and five years of follow-up. Eight were normal; five were between 40 and 80 and two were over 80. Of the seven patients with elevated ureas, six had normal values at the time of initial workup. Only one of these seven is represented in the three elevations mentioned above as occurring during the first year of follow-up.

Over-all pyelographic status did not seem to change with 28 kidney studies remaining stable, 10 studies revealing improvement and 14 showing deterioration. Ten patients who

TABLE 9
FOLLOW-UP

EXAM	LESS THAN 1 YEAR			1-5 YEARS		
	Better	Worse	Un- changed	Better	Worse	Un- changed
Urea*	1	3	7	0	6	12
IVP†	7/19	7/19	5/19	3/33	7/33	23/33
Cystogram.....	0	2	2	0	3	3

*One patient in each of the follow-up groups did not have a urea determination at the time of initial evaluation and is not included in this table.
†The numerators and denominators in these fractions represent the number of kidneys studied.

less than one year to nine years (table 9). Within five years or less, blood ureas became elevated in six of these for the first time.

had 19 kidneys had an additional intravenous pyelogram within one year. Seven kidneys improved; seven became worse and

five did not change. During the one to five year follow-up period 17 intravenous pyelograms studying 33 kidneys were performed. Twenty-three kidneys were unchanged. Seven kidneys deteriorated and three improved. Only two intravenous pyelograms were done over five years following initial evaluation and all kidneys showed improvement.

Four patients had cystograms and two new instances of reflux were found within the one year follow-up period. Six cystograms were done during the one to five year period revealing three new instances of reflux. One patient changed from unilateral to bilateral reflux between one and five years. In no instance did reflux disappear. No cystograms were done after the five year interval.

Urinary Diversion

Two special groups of patients remain to be considered. The first consists of those patients who had diversion of their urinary tract. Ten patients had ileal conduits formed. Construction of a vesico-cutaneous fistula, the Gilchrist procedure and anterior transposition of the urethra were each done

gone formation of an ileal conduit. Seventeen kidneys were involved and of these four deteriorated, eight improved and five remained unchanged. Problems with a tight stoma were encountered twice and pyocystitis was seen twice.

Mortality

The second group for special consideration consists of the 27 patients who died. Fifteen of these died of a neurological cause, four died because of urinary tract problems and four died of other known causes. No patient died because of an orthopedic problem. Three died of unknown causes and in one patient it was impossible to determine whether urologic or neurologic disease was the primary cause of death. Table 10 shows that the neurologic deaths tend to occur early and the urologic deaths to occur in the later years.

Discussion

In patients with spina bifida, urologic problems occur frequently and are often of a serious nature. This is generally acknowledged though only passing reference is made to this problem in reports on large series of

TABLE 10
DEATHS

AGE AT DEATH	CAUSE OF DEATH			
	Neurologic	Urologic	Orthopedic	Other
Less Than 1.....	12	1	0	3
1-5.....	2	0	0	1
6-12.....	1	1	0	0
13-20.....	0	1	0	0
Over 21.....	0	1	0	0

One patient died at age two weeks of either neurologic or urologic cause. The primary cause could not be determined and this patient is not included in the table.
Three patients died of unknown cause, all under five years of age.

once. The indications for diversion were hydronephrosis, reflux, infections and/or severe incontinence. Only one patient died of urinary tract disease following diversion. Ten follow-up intravenous pyelograms were performed on nine patients who had under-

patients with spina bifida.^{1,6,7,8} Other studies focusing on urinary tract problems in these patients have appeared chiefly in the urologic literature.^{4,9,10,11} The magnitude of the problem is pointed out in the present study in which approximately three out of four

patients studied had one or more indications of a major abnormality in their urinary tract. Furthermore, these problems often start at a young age (table 8), a point also demonstrated by autopsy studies indicating that serious urologic problems often begin before age two.^{3,12} Others^{1,7,13} have noted that urinary tract anomalies are frequently associated with spina bifida, though we have not observed this in our own series. Thus, it would seem most important to complete a thorough urologic evaluation of these patients at an early age. Since the majority of patients who die with this disease do so from neurologic causes in the first year or two of life,^{4,5} initial urologic workup should be performed on those patients who survive this period. Earlier workup is recommended for those patients who develop clinical evidence of urinary tract disease before this age. This should include history and physical exam, urinalysis, urine culture, blood urea, intravenous pyelogram and cystogram. Residual urine determination, cystometrics and cystoendoscopy should be done when appropriate.

Less than half of our patients had urologic follow-up studies although this project led us to contact as many patients as possible for further examination. Several patients replied by mail that their urologic symptoms had remained unchanged over the years and they were not interested in being followed since they had adjusted to their status quo. Some were hostile because their incontinence had not been cured on previous visits. Though the number of patients actually followed is too small to allow statistically significant studies, those who were followed frequently showed deterioration of their urinary tracts (table 9). It is important, therefore, to inform these patients or their parents of the potential urologic hazards and to arrange for regular follow-up examinations. These should include yearly urinalyses, blood urea and intravenous pyelography. Other studies as outlined under the initial workup should be repeated as indicated by history of recent

urinary problems or increasing abnormalities in any of the follow-up studies.

Treatment has been varied according to the problems encountered and must be vigorous if good renal function is to be preserved. When diversion is indicated, we have observed some dramatic improvements following construction of ileal conduits. However, many of these patients continue to have both major and minor problems, an observation also made by others.^{14,15,16} Our more recent urinary diversions have therefore taken the form of cutaneous vesicostomies¹⁷ or anterior transposition of the urethra.¹⁸ At this time we are unable to say whether these procedures will prove more satisfactory.

Summary

The histories of 76 patients with spina bifida cystica have been reviewed with special emphasis on the urologic status of these individuals. Of those patients who received urologic evaluation approximately three out of four had a major urologic abnormality. The importance of early complete urologic study and of regular follow-up examination is shown.

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New Penicillin

A new penicillin is capable of fighting two deadly germs which prey on debilitated, elderly patients in hospitals. Drs. Kenneth N. Anderson, Roger P. Kennedy, James J. Plorde, Jonas A. Shulman, and Robert G. Petersdorf reported on the effectiveness of ampicillin (Polycillin) in the February 22nd Journal of the American Medical Association.

The broad-spectrum penicillin was studied in 40 patients with urinary tract infections caused by four common intestinal bacteria and found effective against two, *Escherichia coli* and *Proteus mirabilis*. The pathogens are among those termed gram-negative bacteria.

"Although by no means a panacea for gram-negative infections in general, selective use of this drug in patients with infections caused by *E coli* and *P mirabilis* should result in improvement or cure of a significant number of patients." Typically, infections with gram-negative bacteria occur in the aged whose defense mechanisms are impaired and when the organisms invade the blood stream, the mortality rate is high.

"The increasing prevalence of life-threatening gram-negative infections has been well

documented and these pathogens bid fair to replace the staphylococcus as the scourge of hospitalized patients."

The drug, taken by mouth, was administered for two weeks to the 40 patients with urinary tract infections. In 25 patients, the causative organisms were eliminated during therapy. In six, the initial bacterium persisted and in nine, the causative organism was replaced by one of another species.

Most of the patients treated had chronic infections. In these, the causative organism was eliminated only slightly more than 50 per cent of the time and fewer than one-third remained free of infection one month after completion of therapy.

However, the inability of an agent to achieve cure in patients with chronic urinary tract infections should not be interpreted to mean that it is ineffective. The outcome of chronic infections often depends upon many factors in addition to chemotherapy.

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An Outline for Care of the Patient with Nodular Thyroid

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Some, but not all, thyroid nodules require surgery. A practical guide for the management of these cases is outlined.

THE PRINCIPAL QUESTIONS concerning the care of patients with thyroid nodules are: (1) how to select the patients with nodular thyroids who need surgery, (2) what operation to perform and (3) what postoperative regimen should be followed. The purpose of this brief note is to outline a practical and effective routine for handling these problems.

Selection of Cases

It is impractical to remove surgically all thyroid nodules, and it appears equally undesirable to give desiccated thyroid to all patients with nodular thyroids.¹ Therefore, selection of cases for surgery must be carried out. The principal reason for surgery in patients with goiter is to rule out the presence of malignancy, and so the basic purpose of the "diagnostic thyroid workup" is to determine the chances of malignancy being present in the gland. Surgical exploration is suggested if:

1. The patient is a child. Children reveal a higher percent of carcinoma in nodules than do adults.²
2. The nodule is hard. This is a relative

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matter, but most benign lesions are not extremely hard, with the exception of Riedel's Struma.

3. Scintiscan reveals a cold nodule in the thyroid. Many studies have convincingly demonstrated that cold nodules are cancerous in a much higher percentage than luke-warm, warm, or hot nodules.³
4. Clinical toxicity is associated with nodular goiter. Experience has revealed that radioactive iodine is not as satisfactory in this condition as in Graves' disease.⁴
5. There is sudden rapid growth, severe pain in the neck, pressure symptoms or signs of recurrent nerve paralysis.
6. Enlarged lymph nodes are present in the lateral neck.

In the absence of the above conditions, the patient should be given a trial of 2-6 grains of desiccated thyroid by mouth for three to six months. If the gland decreases in size and does not bother the patient during this time, treatment with desiccated thyroid should be continued. Otherwise, surgery is recommended.

Surgical Approach

The thyroid gland is exposed through a collar incision and both lobes are visualized. A lobectomy is carried out on the side of the nodule. Bilateral subtotal lobectomy is performed if nodularity is equal in both lobes. At this time, a frozen section of the nodule is made by the surgical pathologist. The next operative step depends upon the histology of the nodule.

Pathology diagnosis = colloid goiter:

No further surgery is indicated unless there is nodularity on the unoperated side, in which case a subtotal lobectomy is performed.

Pathology diagnosis = adenoma:

The treatment is the same as for colloid goiter.

Pathology diagnosis = papillary carcinoma:

Further surgical procedures depend on gross findings in the operative field. If there are no palpable lymph nodes and the unoperated side is grossly normal, a subtotal removal of that lobe should be performed. In addition, a very meticulous block dissection of the area in which the papillary carcinoma was present should be carried out, including baring of the exposed recurrent nerve, removal of paratracheal tissue and at least partial thymectomy. Emphasis is placed on regional dissection because most recurrences of papillary carcinoma occur locally.⁵ If lymph nodes are palpable outside the local thyroid field they are carefully removed, but a classical radical neck dissection is not carried out unless involvement is massive. There is no evidence that routine radical neck dissection improves long-term survival in papillary carcinoma of the thyroid.⁶

Pathological diagnosis = follicular carcinoma:

Therapy is similar to that for papillary carcinoma except that total thyroidectomy should be seriously considered if involvement is extensive. Radioactive iodine is occasionally effective against metastases from follicular carcinoma if the gland in the neck has been completely removed.⁷

Pathological diagnosis = medullary carcinoma with amyloid stroma:

This carcinoma is treated the same as

papillary and follicular varieties except that radical neck dissection should be considered more seriously if palpable lymph nodes are present in the neck. There is not enough accumulated experience to determine whether a classical radical neck dissection is indicated for this unusual condition.^{8,9}

Pathology diagnosis = anaplastic carcinoma:

Total thyroidectomy is suggested, if possible. The cure rate in this type of thyroid disease is very low.

Postoperative Regimen

Patients who have undergone any kind of thyroid surgery take 1-2 grains of desiccated thyroid or a thyroid hormone analog indefinitely.¹⁰ When carcinoma was present, the dosage should be increased to give symptoms of toxicity and then dropped back to subtoxic levels. These dosages will range from three to six grains per day. Marked improvement, even in cases with extensive pulmonary and other metastases, has been observed with thyroid therapy in patients who have had papillary carcinoma.¹¹ Some authors suggest the use of local radiation or radioactive iodine for local or distant thyroid cancer metastases, but this remains an unsettled issue.

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“Physical Fitness—Fitness for What?”

Dr. Frank P. Foster, of the Lahey Clinic in Boston, said that “it’s time to rid the American youth, along with his parents and teachers, of the common concept that physical fitness and health are interchangeable. A boy can work hard to achieve physical fitness as, for instance, competence in swimming, yet he is no healthier than the tragic boy who has lost both legs in an automobile accident.” (March issue of *THE NEW PHYSICIAN*)

The article pointed out that few youngsters now in training at the school and college levels will become professional athletes or coaches.

“The man of the future will need: muscle enough to shake hands convincingly and move about; ears with sufficient sensitivity to permit three conversations at once, one with the secretary, one with the client, and one on the telephone; a digestive tract competent to permit its owner to eat anything anywhere and not get indigestion, and the ability to sleep practically any time anywhere in order to keep up with a travel schedule imposed on a busy man by the transportation facilities of today.”

“There is an all-too-common concept, also that the physically fit boy, a really healthy specimen somehow becomes a healthy man. This is a fallacy. The healthiest of

boys does not carry with this state a guarantee that as a man he will not develop cancer, infection, heart disease, high blood pressure, or any other of a dozen illnesses.

“Many believe that exercise is, in some mysterious fashion, essential to health and well-being. This is not true. Many people who never exercise live to the ripest of old ages.

“There is a strong inference generally that fresh air is somehow good for us. Yet, if people are supposed to go outside to be healthy, why are athletes encouraged to take up wrestling, basketball, and other sports which are played totally indoors?

“Finally, there is a puzzling point that women who rarely play in organized sports or achieve what we think of as good shape, from the athletic point of view, quite consistently outlive men by several years.

“There are, however, some positive factors in the physical fitness picture, things that should be done to create better and more effective health programs.

“The most important thing is to deliver an undamaged boy into manhood. This means as he enters adult life, with all its tribulations, that he has two eyes, two ears, two hands, usable knees and ankles, and a brain unhampered by concussions.”

Increasing Non-Specificity of the Enzymes LDH and GOT

Particular Reference to Asthma, Emphysema and Viral Infections

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Although widely used as an aid in the diagnosis of myocardial infarction, an increased concentration of these enzymes is being found to occur in many different disorders.

IN 1954, LaDue, Wroblewski, and Karem¹ introduced the serum glutamic oxaloacetic transaminase as an aid in the diagnosis of myocardial infarction. The enzyme has been found to be widely distributed in various organs of the body including heart muscle,^{1,2} skeletal muscle,^{2,8} brain,³ liver,^{4,5} and kidney.^{6,7} With the passage of time, many conditions have been found to influence the extent of this enzyme in the bloodstream. It has been shown to be elevated in coronary thrombosis,¹ hepatitis,^{5,6} in cases of pulmonary infarction,² rheumatic myocarditis,² contusions to the chest wall,⁸ and renal infarction.⁷ A recent preliminary report by Colldahl,⁹ of which the author was not aware at the start of this study, pointed out the elevation of this enzyme in patients suffering from asthma and emphysema.

During a severe respiratory and viral epidemic (Asian Flu) in Virginia, a group of male patients who had emphysema were admitted to the hospital because of their superimposed respiratory infections. These patients were extremely ill which justified their admission. During their study, it was

noted that both the lactic dehydrogenase and the glutamic oxaloacetic acid were elevated, and, because of this, other patients with similar symptoms without emphysema or asthma were also studied. The patients all had cough, fever, expectoration and generalized malaise, and those with emphysema had, in addition, severe dyspnea. The patients were studied for the possibility of other disease such as myocardial infarction, pulmonary emboli, liver and renal pathology and these were not found to be present.

Typical Case I (with emphysema): A fifty-five-year-old white male was admitted to the hospital because of severe dyspnea, cough, expectoration and malaise. He ran a temperature up to 103 degrees, becoming desperately ill, confused, disoriented and appeared to be in extremism. He was treated with large doses of steroids, penicillin, chloromycetin, in addition to supportive therapy, aminophylline, fluids and oxygen. The patient remained very ill over a period of ten days. The steroids did not appear to drop the elevation of the GOT and LDH. The patient's symptoms slowly abated. The electrocardiogram, chest x-ray, BUN, urinalysis and serum bilirubin were all normal. Initially the LDH was 650 and GOT was 52. This fell to 560 and 26 respectively over a period of six weeks.

Typical Case II (non-emphysema): A sixty-five-year-old white male was admitted to the hospital because of cough, aching and expectoration. The patient had been ill three days. His blood pressure was 90/70 and a few rales were found to be present in both

lungs. Chest x-ray showed pulmonary congestion. Electrocardiogram was normal as was the serum bilirubin and BUN. The patient was treated with large doses of anti-

biotics and showed a prompt improvement. The LDH was 898 and GOT was 31 at time of admission. Five days later the LDH was 380 and GOT 29.

HOSPITAL ADMITTED CASES

NORMAL GOT 10-40 LDH 200-500

	DATE	PATIENT	GOT	LDH	DIAGNOSIS
Case I	2/ 7/63	JRJ	67	695	pulmonary emphysema respiratory infection
	2/ 8/63	JRJ	83	790	
	2/ 9/63	JRJ	75	625	
Case II	2/12/63	HD	52	650	pulmonary emphysema respiratory infection
	2/15/63	HD	16	500	
	3/ 4/63	HD	22	560	
	3/20/63	HD	24	650	
	3/27/63	HD	18	605	
	3/30/63	HD	26	560	
	4/28/63	HD	830	750	
	(readmission)				
	4/30/63	HD	750	850	
	5/ 1/63	HD	40	520	
Case III	2/ 7/63	LS	75	1005	aortic valvular disease respiratory infection
	2/13/63	LS	31	500	
Case IV	2/14/63	JO	46	650	pulmonary emphysema respiratory infection
	2/20/63	JO	52	825	
	3/ 4/63	JO	26	560	
	3/15/63	JO	18	715	
	3/30/63	JO	12	380	
Case V	2/18/63	NP	18	500	pulmonary emphysema respiratory infection
	2/21/63	NP	29	455	
Case VI	2/12/63	HL	37	825	respiratory infection
	2/21/63	HL	49	625	
Case VII	2/12/63	AD	59	625	respiratory infection
	3/ 4/63	AD	43	270	
Case VIII	2/12/63	WH	59	560	pulmonary emphysema respiratory infection
Case IX	2/16/63	AT	40	270	asthmatic bronchitis respiratory infection
Case X	2/16/63	JH	49	435	asthmatic bronchitis respiratory infection
Case XI	3/31/63	WG	31	895	respiratory infection
	4/ 1/63	WG	29	500	
	4/ 4/63	WG	40	475	
Case XII	4/11/63	WS	67	625	pulmonary fibrosis respiratory infection
	4/12/63	WS	63	1005	
Case XIII	3/31/63	WR	12	1195	respiratory infection
	4/ 4/63	WR	29	380	
Case XIV	2/22/63	GA	26	435	respiratory infection
	3/ 4/63	GA	37	625	
Case XV	3/ 4/63	JA	26	695	respiratory infection pulmonary fibrosis
Case XVI	4/13/63	EP	31	1005	respiratory infection
	4/15/63	EP	16	455	

In addition to the group of patients that were hospitalized, below is a similar group that was observed in the physician's office with typical respiratory symptoms and these

disease without any concrete evidence that the liver itself was involved. In typhoid fever,¹¹ the enzyme has been reported elevated and this was also attributed to degen-

OFFICE CASES
GOT (NORMAL 10-40)

DATE		PATIENT	GOT	DIAGNOSIS
Case XVII	2/12/63	MA	53	respiratory infection
Case XVIII	2/12/63	EV	60	respiratory infection
Case XXIV	2/12/63	VC	68	respiratory infection
Case XX	2/13/63	CJ	40	respiratory infection
Case XXI	2/13/63	JJ	63	respiratory infection
Case XXII	2/13/63	LM	45	respiratory infection

were found to have an elevation of the GOT. All studies were taken on the first day of illness and the LDH was not done in the office.

CONTROL STUDENT NURSES
NORMAL GOT 10-40 LDH 200-500

DATE	PATIENT	GOT	LDH
2/25/63	LG	22	335
2/25/63	JP	18	335
2/25/63	LH	24	380
2/25/63	SD	24	405
2/25/63	DS	16	335

A control group of five healthy student nurses was also run. The LDH and GOT in this group were found to be within the usual normal limits.

Discussion

The previous viral types of infections have not been associated with the elevation of these enzymes. Infectious mononucleosis,¹⁰ etiology of course is unknown, has been reported to show elevation of the GOT and this was thought to parallel involvement of the liver; however, in many cases the elevation apparently followed the course of the

erative and necrotic changes in the hepatic parenchyma. It has also been noted by this physician that in five cases of bacterial shock secondary to urinary tract infection the LDH and GOT were elevated.

This study confirms the preliminary report of Colldahl⁹ that disease of emphysema and asthma tend to bring about an increase in LDH and GOT. The author feels that systemic infections can also cause the elevation of GOT and LDH when they are severe enough, without involvement of the liver, particularly if the lungs are involved.

It is becoming more and more apparent that nearly any type of pathology involving the lungs, liver, skeletal musculature, kidneys and heart may produce elevation of these enzymes; therefore, their value has diminished considerably. Both the LDH and GOT have been found to be elevated in all types of leukemia,¹¹ but more so in the acute and myelogenous varieties. The LDH has recently been reported elevated in pernicious anemia.¹² The mechanism of these elevations is unknown.

Summary

It is becoming increasingly apparent that little reliance can be placed on the elevation of these enzymes as a specific aid in diag-

nosis. Their prime value now appears to be in helping judge the extent of damage to the diseased organ.

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MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	March	March	Jan-	Jan-
	1964	1963	Mar.	Mar.
			1964	1963
Brucellosis ..	1	0	2	0
Diphtheria ---	0	0	0	0
Hepatitis -----	60	69	173	331
Measles -----	2072	1812	3570	2815
Meningococcal Infections	4	12	14	36
Meningitis Aseptic-----	0	0	4	9
Poliomyelitis -----	0	0	0	0
Rabies (In Animals)---	40	29	130	68
Streptococcal Infections_	1273	1458	4122	3711
Tularemia -----	0	0	3	5
Typhoid Fever -----	2	1	4	1

Adenomyomatous Endometrial Polyp

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Persistent and irregular vaginal bleeding may be caused by adenomyomatous polyp. Such a case, successfully treated, is presented.

POLYPOID LESIONS of the uterus prolapsing through the cervix are fairly common. They may be myomas, carcinoma, sarcoma, cervical polyps, or endometrial polyps. The term polyp refers to any growth

The larger solid masses presenting through the cervical os can frequently be identified by their gross characteristics. One may be able to distinguish adenomyomatous polyp and myoma from carcinoma, cervical polyps, other endometrial polyps and sarcoma. Since the smooth muscle tumors are hard and usually whorl-like in arrangement on cut section, they may be identified on this basis. The adenomyomatous polyp will, in addition, have endometrial glands and areas of "blood islands" and hemorrhagic spaces. The malignant lesions may be more irregular, friable, exophytic and hemorrhagic to touch.

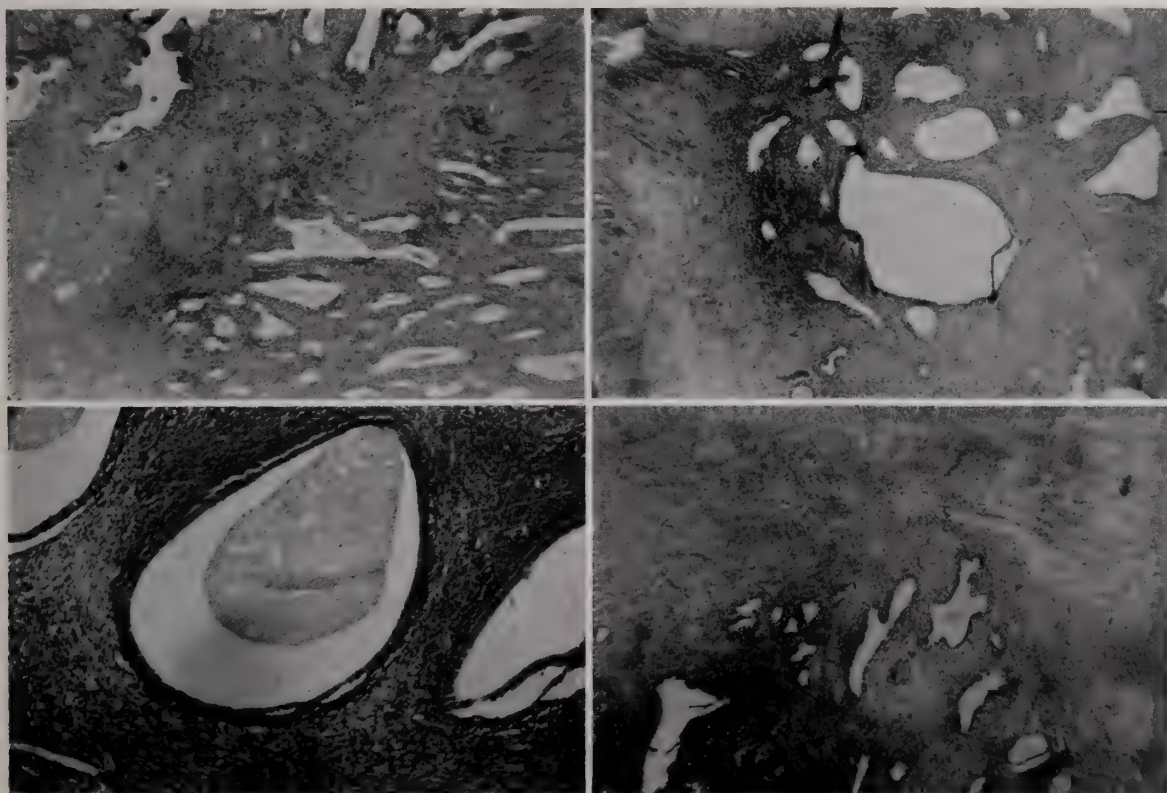


Fig. 1.

attached by a pedicle and does not indicate in any way its histological picture. However, most people think of polyps as originating in the cervix or endometrium.

The polyps are usually smaller, pink or red color, softer texture and consistency.

Recently I saw a patient presenting with a polypoid lesion of the cervix which was

solid and appeared to be a pedunculated myoma with evidence of red degeneration and bleeding. She was admitted to the hospital for workup and surgery. The pathology report of the specimen was adenomyomatous polyp, a lesion that you sometimes read about but very seldom see. For this reason, I decided to report this interesting case.

Case Summary

Mrs. N. B., a 42-year-old white female, para 5-0-5, was admitted to the gynecological service with the chief complaint of vaginal bleeding and spotting. The present illness started in December 1962, at which time the patient began to notice spotting. Her periods have previously been normal and of 8-10 days duration using 2-3 pads per day and occurring approximately every 28 days. Since December 1962, she has noticed gradual increase in flow with passage of clots and frequent spotting 3-4 days between periods. She has also had consistent post-coital spotting. She gives no history of pelvic pain. She gave no history of dysmenorrhea. Her last menstrual period was April 16, 1963. On the day of admission, she had very little vaginal bleeding. She had worked all day with no difficulty. Approximately three hours prior to admission, there was a relatively sudden onset of painless bright red bleeding, no clots. This was described as completely soaking the pads and staining the clothing and the bed clothes. She gives no history of passage of tissue.

Past Medical History: Reveals no history of fractures or trauma. Some ten years ago, the patient had some type of minor surgery for a cyst of the cervix. This was done per vagina. The patient was in the hospital at this time for only one day. Subsequently, she developed some type of kidney infection in which she states she had severe bladder spasm and pain which remained for about one year. At the time of the kidney infection, she had some type of "kidney poisoning" and said that her feet were swelling. She was supposed to enter the hospital for

evaluation but had spontaneous recovery and did not do so. There was no history of hypertension. *Obstetrical History* reveals that she had five pregnancies, five normal living children without difficulty. *Menstrual History:* Onset at 12, periodicity q28, flow 8 days. Menstrual periods regular and without dysmenorrhea until December 1962. *Family History:* Grandfather died with heart disease. Parents are alive and well. No history of other relatives with pertinent diseases.

Review of Systems. The patient denies history of drug or food allergy. She has had relatively constant weight. Except for severe nervousness and multiple complaints, she states that her general health has been fairly good. She complains of frequent headaches with weakness and general feeling of lassitude, swimming of the head and has been under treatment by some local physician for her nerves. She wears glasses to read. Has had ear infections in the past which she states are secondary to sinusitis. She states that she has this particularly in the winter time with frequent sinus drainage and headaches and frequent sore throats.

Physical Examination on Admission: Temperature 99.4, pulse 80, respirations 20, blood pressure 140/98. *General Appearance:* A well-developed, well-nourished white female, extremely apprehensive, alert and cooperative complaining of vaginal bleeding. *Head and Neck:* Normal, supple. Thyroid was not enlarged. Eyes—pupils are round, regular and react to light and accommodation. Extra ocular movements were normal. Fundoscopic examination was essentially normal. Ears—the right ear was packed with cerumen, the left eardrum, canal were normal. Nose and throat were normal with some carious teeth. Pharynx essentially normal. *Lungs:* Clear and resonant to percussion and auscultation without rales. *Heart:* regular rate and rhythm. No murmurs, no enlargement. *Abdomen:* soft, moderately obese. Liver, kidneys and spleen were not palpable. There was no tenderness. Bowel sounds were

slightly hyperactive. There was a 1 cm. raised pigmented area resembling a nevus, pigmented. *Skin*: warm, dry, normal tissue turgor. *Extremities*: essentially normal as far as range of motion. There was no clubbing. Dorsal pedis vessels were normal. *Neurological*: physiological. *Pelvic*: external genitalia showed normal hair and fat distribution. The clitoris was normal size, shape and position. Cervix was clean. There was a pedunculated lesion prolapsed through the cervical os which was hyperemic and eroded and size 5 x 3 x 2 cms. It is solid and nodular. There are some areas of what appeared to be degeneration and excoriation with bleeding points. The cervix is otherwise clean. There are no other lesions of the cervix. Adnexae show no masses or tenderness bilaterally. *Recto-Vaginal*: confirmatory. *Rectal*: essentially normal. The patient had an x-ray of the chest in the PA view which was essentially normal. Electrocardiogram was essentially normal except for sinus tachycardia.

Laboratory Studies: Hemoglobin 10.8, hematocrit 34, white count 9800, differential 81 segs, 17 lymphs and 2 monocytes. Urinalysis revealed a trace of albumin, negative sugar, many white cells and clumps and many red cells. No casts. The patient was 0 positive CDe/C. VDRL was non-reactive. Urine culture and sensitivity on a clean voided specimen revealed aerobacter and enteric streptococcus, sensitive to Gantrisin, Kynex and Chloromycetin.

The patient was taken to surgery where under general anesthesia in the dorsal-lithotomy position an examination was carried out. The mass of the pedicle was estimated to be 3 x 5 cms. The lesion presenting through the os was pulled to the side, cervix dilated, and a D & C done in the usual manner. The endometrial specimen appeared normal. The mass was pulled downward. The pedicle was ligated as high as possible and the mass removed and sent to pathology. The mass was hemisected after removal for observation. The cervix was biopsied. The patient's postoperative course was unevent-

ful. *Postoperative Diagnosis*: functional uterine bleeding; cervicitis, pedunculated submucous myoma with possible adenomyosis. *Pathological Diagnosis*: (1) Adenomyomatous polyp, benign, (2) Proliferative endometrium, (3) Chronic cervicitis = squamous metaplasia.

Adenomyomatous polyp is a much less common histological type of endometrial polyp than either of the other varieties. As with the other polyps, when it is large and protrudes through the cervical os, ulceration and degeneration can result in bleeding of a persistent and irregular nature. This is the usual cause of the patient presenting in the physician's office. Endometrial polyps are classified by Novak and Woodruff¹ as (a) polyps made up of functioning endometrium, (b) polyps made up of immature endometrium and (c) adenomyomatous polyps. The immature endometrial polyp is most common and these are responsive to estrogen only and usually give a picture of hyperplasia. The mature functioning endometrium type polyp responds to both estrogen and progesterone and mimics the normal uterine endometrial cycle. Adenomyomatous polyps differ from the other two types in that they contain not only endometrial glands but, in addition, involuntary muscle tissue.

Some one hundred years ago Rokitansky¹ described a solid tumor of the uterus without a capsule characterized by a downward growth into the uterine cavity to form a polyp. Although he did not use the present terminology describing adenomyosis, his probably was the first reference to what we now call adenomyomatous polyp. Von Reckhughausen in 1882 suggested use of the term adenomyoma uteri to describe the lesion that Rokitansky described previously. Cullen² in 1892 suggested the use of diffuse adenomyoma to refer to lesions located in the myometrium and Frankl³ in 1925 suggested that adenomyomata uteri be limited to those lesions which were encapsulated.

Since the classic text of Cullen² in 1908, the term submucous adenomyoma has been

used. Many pathologists prefer the term submucous polypoid adenomyosis or adenomyomatous polyp and most refer to the same lesion. If the lesion is encapsulated, it should be called an adenomyoma. For this reason, these latter terms were coined to differentiate unencapsulated adenomyomata of a submucous variety. Figure 1 shows photomicrographs of the lesion encountered in this case which was called adenomyomatous polyp. The classic clinical findings in adenomyoma uteri certainly were not present in this patient. She had no dysmenorrhea, no difficulty with menorrhagia and no uterine enlargement. Since removal of the polyp, her menses have been regular and she has had no intermenstrual or postcoital bleeding. Her endometrial scrapings were proliferative and showed no evidence of pathology.

It would seem that this adenomyomatous polyp represents a localized adenomyosis with no apparent residual adenomyosis apparent at this time. It will be of interest to follow this patient at intervals to observe whether she develops any of the symptoms of adenomyosis uteri.

It was of particular interest to me that

this lesion seemed to be a myoma grossly and on cutting the specimen, it had the consistency and typical whorled appearance, but in addition, there were islands of glands and spaces. Benson⁴ calls our attention to the fact that adenomyoma is oft associated with myomata and the diagnosis is frequently missed preoperatively. This case represents another example of "the elusive adenomyosis" as manifested by an adenomyomatous polyp.

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A Word About "Profitless Drugs"

The drug industry contributes a great deal more than we have been willing to talk about in the past. We have hidden behind a so-called ethical approach and we got hurt and badly. Little mention is made of the profitless drugs that the pharmaceutical industry maintains and keeps today for the health of the nation. How many headlines have we seen about the drug for botulism there Lederle keeps in constant supply to take care of an epidemic—with ten cases recorded in the United States in the year 1962? I have not seen this put in the *Congressional Record*.—Philip B. Hoffmann, Chairman of the Board, Johnson & Johnson, to National Association of Chain Drug Stores, Washington, D.C., October 17, 1963.

Aplastic Anemia in an Adult with Two Remissions on Androgen

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Treatment with methyltestosterone appears to have produced remission in a case of aplastic anemia with pancytopenia.

TREATMENT with androgens has been distinctly effective in juvenile aplastic anemia¹ and in agnogenic myeloid metaplasia in the adult.² Less is known about the usefulness of androgens in adult aplastic anemia with pancytopenia. In general, this disorder has a poor prognosis, with approximately one-third of any group surviving after three years, regardless of treatment.^{3,4} The case to be described here represents an instance of pancytopenia developing after a prolonged course of chloramphenicol. Two separate remissions coincided with the administration of large doses of methyltestosterone. An exacerbation occurred when the patient accidentally stopped the use of the hormone. Re-institution of treatment again slowly restored blood values to normal and has led to a belief in the efficacy of the drug in this instance.

Case Report

M.H. is a 72-year-old white widow whose present illness was first observed at this hos-

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Opinions or assertions contained herein are the private one of the above and are not to be construed as official or reflecting the views of the navy department or the naval service at large.

pital on August 7, 1961. She complained of marked fatigability and a recent episode of vaginal bleeding.

One year previously she had been hospitalized for dysphagia. Carcinoma of the esophagus was suspected, and an esophagectomy with esophago-gastric anastomosis was performed. The pathologic diagnosis was severe peptic esophagitis. Because of a post-operative mediastinitis she received chloramphenicol in a total dose of 24 gm. over a three-week period. She recovered, and at the time of discharge her hemoglobin concentration and white blood cell count had been normal. (See Fig. 1.)

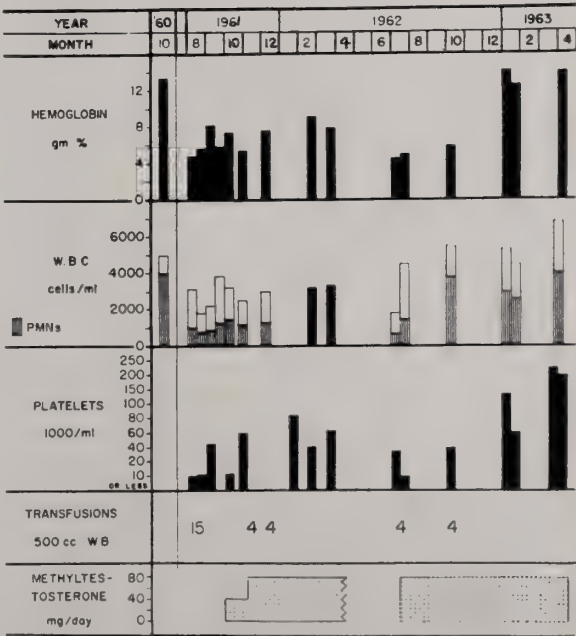


Fig. 1. "The course of events in terms of blood values, transfusion requirement, and methyltestosterone treatment is indicated. Immediate post-transfusion values have been avoided as not representative of the disease process."

During the succeeding year she had remained relatively well until three months

prior to re-admission when progressive weakness developed. She had an episode of gastrointestinal bleeding at that time following salicylate ingestion, which was treated elsewhere with five transfusions. She was then referred here because of continuing weakness and increasing vaginal bleeding.

Physical examination revealed a cachectic, elderly female without fever. Intermittently noted were scattered petechiae and purpuric areas of the skin, and retinal hemorrhages. There was no splenomegaly, hepatomegaly or significant lymphadenopathy. There was a well-healed thoracotomy scar. Pelvic examination showed no cause for vaginal bleeding.

The basic laboratory data are illustrated in Fig. 1. At the time of this admission she had severe anemia, granulocytopenia and thrombocytopenia. The vaginal bleeding was slight in degree and was attributed to the platelet deficiency. Other information at this time included negative studies for gastrointestinal bleeding, a serum iron of 124 gamma per cent, reticulocyte counts of one per cent or less, multiple negative Coombs' tests, a normal serum protein electrophoresis, negative blood cultures, and no Bence-Jones proteinuria. Needle aspiration of the iliac crest failed to recover marrow. An open iliac biopsy showed several foci of hematopoiesis in the sub-cortical bone, but less than would be expected in an actively regenerating marrow. There was no evidence of a maturation arrest, and a greater suppression of myeloid than of erythroid elements was noted. Platelet and leukocyte antibody tests by Dr. James Tullis⁵ were negative. Blood type was A-negative.

At the onset of this illness, evidently more than one mechanism of anemia was present. Her high initial transfusion requirement indicated hemolysis, although the reticulocyte count was not elevated. Prior to admission her nutrition had been poor. However, she soon took a normal diet, there was free acid in the gastric aspirate, and vitamin supple-

ments were ineffective. On the basis of the above studies, the major diagnosis was aplastic anemia, probably secondary to chloramphenicol. After fifteen transfusions in a nine-week period she was discharged on methyltestosterone, 40 milligrams orally per day. She was also given stilbestrol, 0.5 mg. daily, to minimize masculinizing effects.

The patient required re-admission for transfusions at approximately six-week intervals in October and December of 1961. On these occasions she was subjectively improved, but pancytopenia was still present. Petechiae and retinal hemorrhages were again noted. Four transfusions were given on each occasion, as indicated in Fig. 1. and the methyltestosterone dose was increased to 80 mg. per day.

For the next six months she was followed by her private physician in Maine. He reported that she maintained moderately reduced hemoglobin values without any transfusions. White blood cell and platelet counts varied from normal to moderately reduced without any hemorrhagic episodes. (In Fig. 1. the solid bars for leukocyte counts during this period indicate that no differential was available.) Some time in late April of 1962 the patient felt well and discontinued medication on her own. Symptoms returned, and in July of 1962 she was found to be markedly pancytopenic again.

At this time she was again admitted to the hospital and given four more transfusions. Androgen was re-started. At the end of ten weeks she was still severely anemic and was given another group of transfusions. On the second occasion, however, she was subjectively improved, and had gained fifteen pounds in weight since the onset of this illness. For the first time her peripheral blood smear showed a granulocyte preponderance in the white cell series. The reticulocyte count was 6.4 per cent.

Since that time she has been observed to maintain normal levels of all blood elements for eight months, while on 80 mg. of methyltestosterone per day. During the last

two months, not indicated in Fig. 1., these levels have been sustained while on 60 mg. per day. Hemoglobin electrophoresis has shown 4.3 per cent alkali-resistant hemoglobin. Cold agglutinins have been persistently present at dilutions of 1:1024 in 1962, and 1:612 in April of 1963. No clinical evidence of an association between these agglutinins and the hematologic status has been evident. Liver function tests on April 10, 1963, showed normal serum bilirubin, alkaline phosphatase and transaminase, and a bromsulphalein retention of 9 per cent at forty-five minutes. Iliac aspiration showed a dilute marrow with normal cellular elements. Reticulocyte count was 0.6 per cent. Neither petechiae nor purpura have been present during this time.

Discussion

The sequence of events which has been described here is strongly suggestive of a beneficial effect from androgen therapy in an elderly female with aplastic anemia. During the first period of treatment there was mainly a decrease in transfusion requirement and disappearance of petechiae, with a less striking improvement in hemoglobin and platelet levels. With cessation of treatment, however, there was a recurrence of her disease in its original degree of severity. Thereafter, re-institution of the androgen slowly restored blood values to normal. The significance of the relatively small dose of stilbestrol is unknown.

Androgens are known to be effective in aplastic anemia in the pediatric age group¹, but there is little previous experience available on androgens in aplastic anemia of adults. There is a report of a remission of aplastic anemia in a 69-year-old male with a thymoma;⁶ the anemia, which had been refractory to other forms of treatment, subsided during the administration of 50 mg. of methyltestosterone per day, followed by testosterone propionate intra-muscularly. This was an instance of erythrocytopenia without pancytopenia. Mohler and Leavell²

regarded testosterone as ineffective in three patients with aplastic anemia. Their dose of methyltestosterone, 30 milligrams daily, may have been significantly less than the 80 milligrams per day used here.

Because androgens are of known effectiveness in myeloid metaplasia³, it is worthwhile to consider whether this case is an example of myeloid metaplasia rather than of aplastic anemia. The pancytopenia, lack of hepatic or splenic enlargement, and lack of nucleated red cells in the peripheral smear are against such an interpretation. Since both diseases may occur as apparently primary disorders of hematopoiesis, there may well be disturbed, unknown mechanisms which are common to both. Furthermore, androgens appear to be non-specific marrow stimulants, and have been beneficial in a variety of anemias characterized by inadequate cell regeneration.

The probable relationship between this patient's hematologic problem and chloramphenicol deserves comment. It has been established clinically⁷ and experimentally⁸ that chloramphenicol may produce an acute, dose-related suppression of marrow function. This patient had normal blood values at the end of her course of treatment with chloramphenicol, and her pancytopenia apparently began several months later. Presumably the development of such severe abnormalities could require an interval during which existing, healthy cell populations mature and expire without replacement. It appears that with frequent reticulocyte counts, inspection of the marrow for vacuolization of cells, and perhaps iron studies the earliest effects of chloramphenicol may be detected, and the anemia possibly prevented.⁸

Another interesting aspect of this patient has been her tolerance for the relatively large dose of methyltestosterone. There has been slight development of hair on the chin and voice deepening, but neither has been troublesome. The extent to which the supplemental stilbesterol has accounted for this

is unknown. Of greater concern is the possibility of jaundice due to the androgen. Heaney and Whedon⁹ found consistent, distinct elevations of bromsulphalein retention in short-term studies of androgen administration. The relationship between this abnormality and the rare occurrence of cholestatic jaundice due to methyltestosterone remains to be established. This patient showed only 9 per cent bromsulphalein retention after nearly a year, and has had no other abnormalities of liver function. In any event, the potential complications of this agent would not appear to equal its advantages in this instance.

Summary

A case of severe anemia, granulocytopenia and thrombocytopenia of the aplastic variety in an adult has been presented. Chloramphenicol may have been the precipitating factor. Two separate hematologic remissions occurred during treatment with methyltestosterone. An exacerbation occurred during an interval in which the androgen was discontinued. These events have led to a belief in the efficacy of the treatment with methyltestosterone in this instance. Although known to be beneficial in juvenile aplastic anemia, this experience apparently has not been obtained in adults. Further trials at relatively large doses would appear to be indicated.

Acknowledgment: Gratitude is expressed to

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Quality Control in your Hospital

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The importance of consistent accuracy in the hospital laboratory is obvious. A quality control program helps to insure this accuracy.

THE DEPARTMENT OF PATHOLOGY in your hospital is playing an ever increasing role in the evaluation of the patient. In the department of clinical pathology, the greater the accuracy of the test, the greater is the value to the physician. The department must of necessity check reports for accuracy, and this can be done by a program of quality control. Ordinarily we use the term accurate to mean the actual value obtained on a procedure. In the laboratory the term as it is used means that the value may be slightly above or slightly below the actual true value. This variance however must be in a narrow range, which will not affect the value of the test to the physician or patient.

If the actual value of a B.U.N. of a patient is 65 mgm%, a reported value of 62 mgm% or 69 mgm% will not affect the diagnosis or therapy. There are numerous factors existing to account for this variability. The patient himself may be a factor, or a quicker shorter less accurate procedure may be substituted. In addition, the volume of the specimen, time of day, delay in processing, breakdown in equipment, or tech-

nologists human error, all may enter the picture to change the final result.

Quality control means that in a series of tests of the same nature, a control sample is also analyzed. The value of this control is known by previous determination. The tests run with this control sample fall within a range or quality control limit which has previously been determined. If the control sample does not fall within this range, the sample is "out of control", and all measurements in this batch are automatically eliminated and must be repeated. Therefore, quality control measures the accuracy of every clinical procedure reported by your laboratory. Medicine today requires this accuracy, and quality control offers to the physician an accuracy in the clinical laboratory which previously was not possible. This program should be used in all laboratories, regardless of size, for it is not hard to establish, although it may require several months to function properly.

The Council on Clinical Chemistry of the American Society of Clinical Pathologist has been conducting workshops in the program for several years. They have prepared an excellent manual as well as a kit to help any laboratory establish such a program.¹ Until recently, the program was restricted to members of The American Society of Clinical Pathologist. Now it has been made available to 7000 hospitals in the United States, Canada and foreign countries.

A number of methods are available to establish quality control. Standard solutions can be prepared within the department. These solutions contain a known amount of pure material dissolved in a solvent, with the concentration of the substance known. Standard solutions can also be purchased

Read in part before Workshop on Quality Control, Interim Meeting, American Society of Clinical Pathologists, New Orleans, February, 1963.

From the Department of Pathology, Louise Obici Memorial Hospital.

through the College of American Pathologists,² who maintain a standards laboratory. These later standards are also valuable for the establishment of new procedures in the laboratory.

Another method is the use of a test service. In this method the laboratory subscribes to a proficiency service which sends out unknowns weekly or monthly. This can be on a commercial basis, by a group of pathologists banding together, or by subscription to a proficiency service, such as the one conducted by Dr. William Sunderman of Philadelphia.

The method outlined in the quality control manual and kit prepared by the American Society of Clinical Pathologists is the use of pooled frozen sera. Serum is collected and frozen in the laboratory. After a sufficient quantity has been obtained, duplicate samples are run for each test on 15 consecutive days. The standard deviation is then obtained by applying the formula standard deviation =

$$\frac{\sqrt{\text{sum of squared differences from average}}}{N - 1}$$

where N = number of measurements.¹ This means simply that if one performs 100 examinations on the same material, ± 1 S.D. will include 68% of results, ± 2 S.D. will include 95% of results, ± 3 S.D. will include 99.7% of all results.

About three years ago, we began with the use of pooled serum. Difficulty was experienced in obtaining enough sera for proper analysis of all chemistries. In addition, because of the size of the institution, the number of technicians and the fact that two other smaller hospitals were also involved it was decided to use commercially prepared material.

Controls are obtained commercially. These can be purchased with the constituents present either in a normal or abnormal range. Used daily with the patient unknowns, they afford excellent accuracy. Although this type of program may be more expensive, it was felt to be more practical in our in-

stance. The one great disadvantage is the fact that the technologist usually knows the value to be obtained and this enters a factor of "bias". To some extent this can be eliminated by mixing concentrations of the material and once or twice weekly inserting these into the daily runs.

It was also decided after experimentation, to use ± 5 percent as a working margin rather than the determination of ± 3 standard deviations. In practically all instances this method, much easier to work out, will fall within the accepted range. The results are charted on a day to day basis, with each technician assigned a different symbol for identification. These graphs are then charted on a board in the chemistry laboratory for the technicians and physicians to see. The first reaction of the technician usually is that the head of the laboratory is spying. Once, however, they become accustomed to the program, it has been our experience that they inevitably strive for greater proficiency.

In the following examples you can see how the program functions. In figure 1,

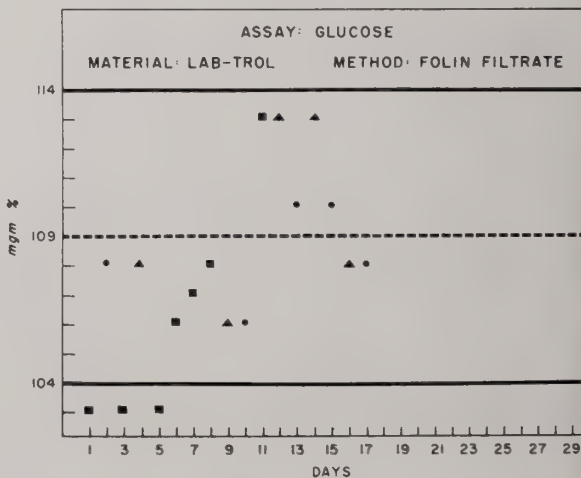


Fig. 1. Daily determination of glucose on quality control chart using Lab-Trol. Different symbols indicate technicians performing assay. Dotted line indicates found value. Solid lines indicate $\pm 5\%$.

using the determination of glucose with Lab-Trol.³ The found value stated on the vial was 109 mgm%. $\pm 5\%$ deviation gives a low of 104 mgm% and a high of 114 mgm%. This means that if the control for the morning falls out of this range, the

whole morning run of glucose is "Out of Control" and must be repeated. You can note also in figure 1 another point of interest: one of the student technologists, whose symbol is a square, began slightly below the low normal range and gradually, during the week she was in chemistry, her values came to within the normal range, and finally on the seventh day fell in the high normal range. One can immediately see that this helps to evaluate a technician's proficiency and can call attention to the head technologist that perhaps some attention need be paid to her technique or other factors.

In figure 2 using Lab-Trol again for the

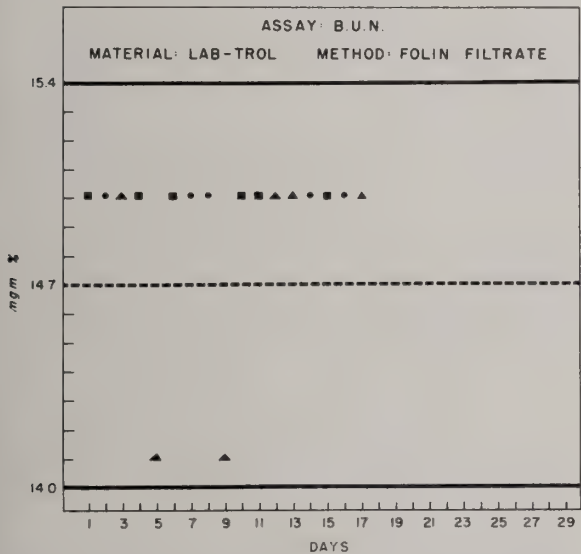


Fig. 2. Daily determination of B.U.N., on quality control chart. Symbols are identical to Figure 1. Dotted line indicates found value. Solid lines indicate $\pm 5\%$.

determination of the blood urea nitrogen, the found value was 14.7 mgm%. $\pm 5\%$ gives an acceptable range of a low of 14.0 mgm% and a high of 15.4%. Here all values fell within the accepted range. Finally in figure 3, using Versatol A⁴ for the determination of potassium, the found value was 7.1 meq/1. $\pm 5\%$ gave a working range of 7.5 meq/1 high range and 6.7 meq/1 on the low side. In all instances the determinations fell within the accepted range. The standard deviation on this chart was determined. The average values for the determinations in figure 3 was 7.10 meq/1, and 3 S.D. were found to be ± 0.48 meq/1. This means that

99.7% of all determinations should fall between 7.58 meq/1 and 6.62 meq/1. One can see by referring to figure 3 that they do; in fact they fall closer to ± 2 S.D.

From this it is thus easy to see why quality control has become an important part of clinical chemistry. It helps to establish confidence in the clinical chemistry laboratory and it helps to indoctrinate the medical technology staff and physicians with the philosophy of quality control, long a part of industry. In addition, at the present time it has helped stimulate the philosophy of expanded quality control in other areas of the laboratory, namely bacteriology, blood banking, hematology, serology, cytology.

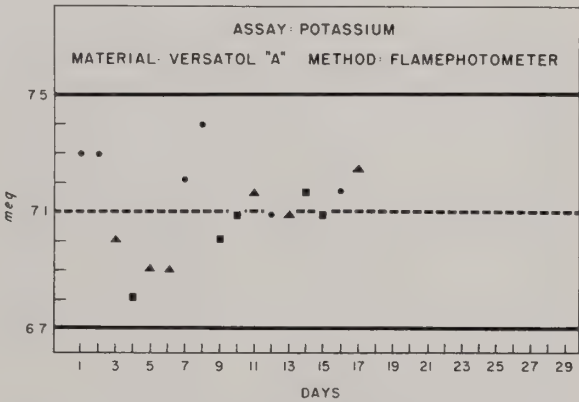


Fig. 3. Daily determinations of potassium using Versatol A. Symbols identical to Figure 1. Dotted line indicates found value. Solid line indicates $\pm 5\%$. ± 3 standard deviations on this control chart were determined and found to be ± 0.48 meq/l.

The Joint Accreditation Commission is becoming increasingly aware of the value of this type of program in the laboratory. The College of American Pathologists has recently established a voluntary laboratory accreditation program. In its inspection, a quality control program is a must. In the final analysis a quality control program permits a realistic view of the day to day reproducibility of the clinical laboratory, and it permits confidence in the report which the physician at the bedside receives.

Summary

The definition and importance of a quality control program in the clinical labora-

tory of a hospital is discussed. The various methods for the establishment of such a program are mentioned. The outline for one type of program is given. Finally the importance in checking the reproducibility of the clinical laboratory, and its importance to both the technologist and physician is stressed.

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*Louise Obici Memorial Hospital
Suffolk, Virginia*

Senior Citizen Hospital Volunteers

Retired and older citizens can be highly helpful as hospital volunteers. James H. Parke, director of the voluntary service staff of the VA's department of medicine and surgery, Washington, D.C., writing in a current issue of *HOSPITALS*, Journal of the American Hospital Association, says that VA studies indicate that older and retired citizens desire to be a part of volunteer service programs and not members of "an older-age class entity".

Through participation in some kind of useful volunteer work, retired and older citizens in good health can go a long way toward meeting some of their own social needs.

"We suggest that retired, older citizens can share their experiences with our veteran-patients, share their friendship and share their hobbies." At a VA hospital in the Bronx, New York, elderly volunteers—who make up 20 per cent of the hospital's volunteer force—are taught to conduct bingo games, show motion pictures, aid in occupational therapy, and to perform other duties including clerical and library work.

The enthusiasm of one senior citizen volunteer in a VA psychiatric hospital in Montrose, N.Y., is described by Mr. Parke:

"She comes twice a week—visits and feeds the helpless neurological patients; she is one of the few volunteers who spends time with the tuberculous patients; she assists with a special Protestant service once a week; she teaches Braille to two blind patients.

"She has found a new life for herself during her years as a volunteer. She's hale and hearty, walks an average of seven miles during her volunteer day, and she's 86."

Throughout the country, millions of dependent aged cannot feed or dress themselves, communicate adequately, or move without assistance, Mr. Parke writes. These are elderly men and women who have to have things done for them, who can do little for themselves.

"Even with this latter group, we should capitalize on what little they can do. We should help them feel that they are making a productive contribution and that they, too, are needed"

The Congenital Hyperbilirubinemias: Crigler, Johnson, Najjar, Rotor, Du- bin and Gilbert.

The names listed in the title have been used alone and in combination as eponyms for a variety of congenital bilirubinopathies, having in common the appearance of jaundice, often during the neo-natal period. The pathogenesis in most cases is not well understood; however, newer concepts of bilirubin metabolism have shed light on the mechanisms involved in at least some of these disorders.

Plasma bilirubin is derived for the most part, from the opening of the porphyrin ring structure of the heme molecule, in the catabolism of hemoglobin within reticulo-endothelial cells. About 300 mgs. of bilirubin bound to albumin leave the reticulo-endothelial system daily to be carried predominantly to the liver via the blood stream. (1 gm of albumin binding 15 mgs. of bilirubin). This albumin-bound bilirubin or "free" bilirubin is also referred to as "indirect" bilirubin in that it gives a negative direct acting Van den Bergh reaction. It is water insoluble and lipid soluble and has a strong affinity for brain tissue. It is normally absent from bile and is not present in icteric urine. This indirect bilirubin is not conjugated and has been shown to migrate the slowest of the three bilirubins demonstrable by reverse phase column chromatography and has been designated as bilirubin pigment 3. The two more rapid migrating bilirubins have been identified as conjugated bilirubins, 25% occurring as bilirubin monoglucuronide and designated pigment 1, 60% conjugated as the diglucuronide and 15% as bilirubin sulfate. These latter two conjugates, the diglucuronide and the sulfate, have been collectively called pigment 2. All the conjugated bilirubins give a "direct" acting Van den Bergh reaction, are water soluble and lipid insoluble and have no affinity for brain

tissue. They are normally present in large quantities in bile and are present in icteric urine. These three pigments can be separated by means of solvent partition and spectrophotometry.

Animal experiments have shown that the monoglucuronides (Pigment 1) are not only conjugated in the liver but a small percentage is conjugated in other as yet undetermined sites. On the other hand, the conjugation to diglucuronides can only occur in the liver. These studies, carried out on hepatectomized dogs suggests a similar process in humans. The enzyme glucuronyl transferase, normally present within hepatic cell microsomes, is required for conjugation, the bilirubin reacting with uridine diphosphate glucuronide. The conjugation of bilirubin with sulfuric acid occurs in sites and by mechanisms as yet unknown.

The congenital bilirubinopathies are a heterogenous group. Attempts at classification have had little meaning since the mechanisms of production are known in only certain of the disorders and in part in others. There is little doubt however, that impairment of conjugation is responsible for the *Crigler-Najjar* syndrome. In such patients, glucuronyl transferase is either absent or markedly decreased, although liver function otherwise is apparently normal. Hemolysis does not occur and high levels of indirect reading (Pigment 3) bilirubin are found in plasma, frequently causing kernicterus. The bile of such patients is colorless and free of glucuronides. This disorder must be distinguished from "physiological jaundice of the newborn and the premature", which results from a relative functional immaturity of hepatic parenchymal cells with a transient functional glucuronyl transferase deficiency and temporary jaundice of the indirect type. This process is greatly intensified in infants in whom a hemolytic anemia is superimposed.

"Constitutional hepatic dysfunction" or *Gilbert's disease* has a more complex pathogenesis and is less well understood. It is also characterized by increased levels of indirect plasma bilirubin, without evidence of hemolysis and without hepatosplenomegaly. In this group, jaundice usually first becomes manifest in adolescence. The hyperbilirubinemia is often intermittent and of varying intensity and tends to be aggravated by alcohol, emotional upsets and physical exertion. Some such patients have been shown to have a deficiency in glucuronyl transferase. In addition, it has been postulated that jaundice may in part also be due to a defective uptake of indirect bilirubin by hepatic cells. A somewhat similar entity, the Dubin-Johnson syndrome or "chronic idiopathic jaundice" also occurs in young adults and adolescents. Here, too, jaundice is intermittent; however, usually both the conjugated and free bilirubins are elevated in the plasma. Liver biopsy in such patients has shown the presence of an unidentified yellow pigment within hepatic cells. Such patients usually demonstrate impaired bile excretion by cholecystography techniques. A similar entity with normal gall bladder roentgenograms and without hepatic pig-

mentation has been called the *Rotor syndrome* after the author who first described this finding. This entity is also known as "chronic familial non-hemolytic jaundice without hepatic pigment" or "chronic familial non-hemolytic jaundice with conjugated bilirubin in the serum".

A "shunt bilirubinemia" has also been described, characterized by splenomegaly, hyperbilirubinemia of the free or indirect type (Pigment 3) with jaundice and no hemolysis. Such patients have been shown to have normal hepatic glucuronyl transferase systems and it is believed that the increased unconjugated plasma bilirubins are derived from non-hemoglobin sources.

Finally, mention should be made of "transient familial hyperbilirubinemia of the newborn", an entity resembling physiological jaundice of the newborn but believed to result from the temporary presence of a glucuronyl transferase inhibitor in the maternal circulation causing a transient diminution in conjugation and a temporary rise in free bile pigments.

L. S. KAPLOW, M.D.

*Division of Clinical Pathology
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Curtailment of New Drug Research

The drug manufacturers have been increasing their research and development expenditures steadily year after year by an average of 15%. The forecast for 1962 had been for the same increase. However, when the year was over, the increase amounted to only six percent. Why was it cut to less than half? Why a sudden slow down in research? The answer is in one word—Government. As PMA President Austin Smith, M.D., commented in a masterpiece of understatement, "Some curtailment of research activities and a more cautious attitude toward investment in new programs has developed in connection with passage of the 1962 drug amendments." Editorial in *Western Pharmacy*, September 1963.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Community Cancer Demonstration Project

There is a definite need for increased activity in certain phases of cancer control in Virginia. One of these phases is cancer reporting. If reporting were emphasized in this State by physicians seeing cancer patients, hospitals and physicians would be more aware of the facilities offered by the State Department of Health for case-finding and diagnosis. As of today, only twenty-six hospitals, including nineteen tumor clinics, report their cases to the State Cancer Control Registry.

In 1960 it was felt that by making cytological examinations available through the local health departments' 98 prenatal clinics throughout the State more cervical cancer could be found in its earlier stages. Also, local private physicians and clinicians would have the opportunity to become acquainted with the diagnostic services available in these clinics, including the Papanicolaou smear. Since local health departments examine approximately 8% of all pregnant women in Virginia, it was estimated that between 7,000-8,000 persons would be screened each year, thus providing an excellent opportunity for lay education.

The present program consists of case-finding, supported by nineteen active tumor clinics. All slides, mailing containers, biopsy material and forms are furnished both clinics and private physicians without cost. Cytological smears are sent to twenty Board-certified pathologists for interpretation, atypical, suspicious and positive smears being reread for quality control. Cases with posi-

tive findings are referred to one of the nineteen tumor clinics and are followed up by letter to the referring physician. Each director of the tumor clinics may request a three-day diagnostic hospitalization study for patients whose diagnosis cannot be completed in the clinic.

This project began active operation September 1, 1960, seeing pregnant women whose ages range from eleven to fifty-two years of age. Patients are indigent or medically indigent and are not cancer suspects. Since the beginning of the program 16,620 patients have been screened, and a total of 21,834 smears have been examined. Results show 16,433 negative slides, nineteen atypical, ninety suspicious, fifteen positives and sixty-three unsatisfactory. This includes those patients with routine first and second year repeat examinations. In 1963, 8,039 smears were examined and of this number six were positive and fifty suspicious.

It has been noticed that there has been a definite increase in the number of physicians taking "Pap" smears in maternity clinics, although some do not wish to take smears on primiparas and others desire to take post-partum smears only.

The educational benefit of the demonstration program has been proven, as there is evidence of an increase in the number of smears being taken by private physicians. Also, the out-patient departments of several hospitals and general medical clinics are now taking more cervical smears than heretofore. We feel this increase is definitely due, in great part, to familiarization with the cytology project.

JAMES B. FUNKHOUSER, M.D.
EDNA M. LANTZ

Alcoholism in Public Mental Hospitals

More than 100 years ago the records of the Northampton State Hospital, Massachusetts, contained the following statement from the annual report of the Superintendent, Dr. William Henry Prince:

“A few words may be said here, perhaps, with some advantage, of a class of cases for which our Commonwealth, with all her noble liberality, and in her magnificent charity, has thus far failed to make that provision which the claims of the unfortunate in other respects have drawn from her bountiful hand. The subject is brought more prominently into notice at this time, because a much larger proportion of patients than ever before, has this year been admitted to this institution from the class referred to. The fact that patients of this class seek the treatment of an institution of this kind is not to be received as proof that it is the most suitable place for them, but only that there is nothing better provided for them. And while it must not be considered cause of reproach against our noble Commonwealth, that she has not as yet made more suitable provision for this class of sufferers, we may indulge a reasonable hope that the time is not far distant when blessings shall be daily invoked upon her at firesides not yet reached by the warmth of her noble charity.”

The cause for this comment was that the 1861 annual report of the Northampton

Lunatic Asylum had just shown “intemperance” to head the list of the supposed causes of insanity. The Northampton Hos-

TABLE No. 1
SUPPOSED CAUSES OF INSANITY OF PATIENTS IN THE
ASYLUM DURING THE TWO YEARS*

CAUSES	Male	Female
Blow on the head.....	4	.....
Bodily injury.....	1	1
Congenital.....	1	1
Cerebral lesion.....	1	.....
Concussion of the brain.....	2	2
Convulsions.....	2	.....
Destitution.....	.....	1
Domestic afflictions.....	5	12
Domestic troubles.....	3	22
Dissipation.....	1	.....
Dissolute habits.....	.....	1
Epilepsy.....	9	3
Fevers.....	8	10
Fever and loss of law suit.....	1	.....
Fractured skull and ill treatment.....	1	.....
Fright.....	.....	3
Ill health.....	17	24
Intemperance.....	27	.....
Inhaling tobacco fumes.....	1	.....
Indolent habits.....	3	1
Jealousy.....	1	2
Love.....	2	5
Loss of arm.....	1	.....
Masturbation.....	25	.....
Mental perplexity.....	.....	1
Meningitis.....	1	.....
Narcotics (excessive use of).....	1	2
Neuralgia.....	1	.....
Overtaxed energies.....	9	4
Old age.....	1	1
Pecuniary troubles.....	12	1
Paralysis.....	1	.....
Puerperal.....	.....	2
Political excitement.....	1	.....
Religious feelings.....	4	5
Retrocession of measles.....	1	.....
Sexual disorders.....	.....	18
Suppressed perspiration.....	1	.....
Seduction.....	.....	1
Small pox.....	.....	1
The war.....	19	5
Witnessing two brothers drowned.....	1	.....
Unknown.....	82	41
Total.....	251	173

*Excerpt from Dr. Francis Taliaferro Stribling's report to Board of Directors of Western Lunatic Asylum, Staunton, Virginia, dated March 1865.

pital was not an exception. A century ago, intemperance was a leader of “supposed causes” of insanity at the Boston Lunatic

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Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

Asylum, Western Lunatic Asylum in Virginia (see Table #1), Worcester, McLean, Hartford, Augusta and Pennsylvania. Only at Utica (after "ill health" and "vicious habits and indulgences") and at Eastern Lunatic Asylum in Virginia (see Table #2) (after "The War" and "domestic trouble")

TABLE No. 2
SHOWING SUPPOSED CAUSES OF DERANGEMENT OF
PATIENTS IN ASYLUM FROM NOVEMBER 1ST,
1865, TO OCTOBER 1ST, 1866, AS REPORTED

SUPPOSED CAUSE	Male	Female	Total
Affection of brain.....	0	1	1
Amenorrhoea.....	0	3	3
Blow on the head.....	7	1	8
Bodily affliction.....	1	2	3
Cerebral lesion.....	3	1	4
Covetousness.....	0	1	1
Disappointed love.....	2	2	4
Disappointed in matrimony.....	0	2	2
Domestic trouble.....	6	21	27
Dysmenorrhoea.....	0	1	1
Epilepsy.....	7	1	8
Excessive use of tobacco.....	0	1	1
Fear of starvation.....	0	1	1
Fright.....	0	1	1
Hereditary predisposition.....	1	4	5
Ill health.....	4	4	8
Ill treatment.....	0	3	3
Intense study.....	1	0	1
Intemperance.....	9	2	11
Masturbation.....	6	0	6
Menstrual derangement.....	0	1	1
Mental perplexity.....	2	4	6
Pecuniary embarrassment.....	6	3	9
Perpetual motion.....	1	0	1
Peritonitis.....	0	1	1
Phrenitis.....	1	0	1
Political excitement.....	1	0	1
Religious excitement.....	2	9	11
Reports prejudicial to character.....	0	1	1
Sexual derangement.....	0	2	2
Spinal affection.....	1	0	1
Spiritualism.....	2	0	2
St. Vitus dance.....	0	1	1
Unknown.....	34	23	57
Unrestrained temper.....	0	2	2
Uterine disease.....	0	3	3
The war.....	18	20	38
Total.....	115	122	237

EASTERN LUNATIC ASYLUM

did intemperance rank as low as third place among the "supposed causes." Today, an apparent general increase in alcoholism in the United States is paralleled by a sharply rising admission rate for alcoholics in public mental hospitals. Statistics on alcoholism are not available from all states. A trend, however, can surely be seen in the figures from New York State (which

has one-sixth of all the mentally hospitalized patients in the nation). During a ten-year period, from 1950 to 1960, admissions for alcoholism to the state mental hospitals in New York increased almost 74%.

In Maryland it was recently reported that for the second year in a row more patients were admitted to Maryland psychiatric hospitals for alcoholism than for any other single primary diagnosis. In actual numbers, alcoholic admissions have doubled in a three-year period from 1960 to 1963 in Maryland.

In Virginia alcoholism admissions increased slightly from 1960 through 1962 and had a slight drop in 1963. This drop may be due to the recent development of other services in Virginia for the alcoholics, such as: the Division of Alcoholic Studies and Rehabilitation of the State Health Department, which has both inpatient and outpatient service; private psychiatric hospitals; and more widespread use of general hospitals.

In addition, Blue Cross and other hospitalization services now cover alcoholism which they did not do formerly.

TABLE No. 3
PERCENTAGE DISTRIBUTION OF ADMISSIONS BY
PRIMARY DIAGNOSIS

PRIMARY DIAGNOSIS	1963	1962	1961	1960
Alcoholism.....	20.43	20.75	19.94	18.09
Schizophrenia.....	22.45	26.50	28.14	28.29
Diseases of senium..	14.81	15.28	16.23	17.27
All others.....	42.31	37.47	35.69	36.35
	100.00	100.00	100.00	100.00

There has also been a change in policy by the state hospitals. More alcoholics are released on trial visits, thus returns are from trial visits rather than readmissions from discharges. This lowers the total admission rate, but does not decrease the problem. See Table #3.

Although statistics of any sort are notoriously deceptive and often misleading unless carefully analyzed by expert statisticians, it can probably be safely assumed that the problem of alcoholism in state mental hospitals that accept alcoholics is growing rather than diminishing.

It is remarkable that the size of the problem and the doubts and misgivings expressed by Dr. Henry Prince more than 100 years ago should still plague the superintendent of a modern public mental hospital.

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Vaccines Successful Against Disease Causing Blindness

Experimental vaccines have been used successfully to prevent trachoma, an eye disease which is the most important cause of blindness in the world. The report came from Dr. J. Thomas Grayston, Seattle, and his associates who have been working on trachoma vaccines for five years at the U.S. Naval Medical Research Unit on Formosa and at the University of Washington, Seattle. (April Archives of Environmental Health, published by the American Medical Association.)

A trachoma virus was first isolated by F. F. Tang and colleagues in Peking in 1957. In the past five years, the virus has been readily isolated in a number of laboratories around the world.

Although trachoma can be cured by several antibiotics and sulfa drugs, attempts to eradicate the disease through mass antibiotic campaigns have shown success only in the more developed countries. Even in the southwestern Indians of the United States where the disease was believed to have been virtually wiped out, there has been a recurrence. An estimated 500 million persons, or one-sixth of the world's population, are afflicted.

After observation for periods of up to three years, an early vaccine developed by Dr. Grayston's group, with relatively low potency, was found to have a preventive effectiveness of 60 per cent among preschool aged children. It also had a favorable effect

on the course of the disease and the response to treatment with antibiotic eye ointment in experimentally infected volunteers. Despite these favorable results, there was difficulty in preventing experimental infections in man or monkeys with vaccine apparently because the experimental inoculation is a stronger challenge than natural infection. After earlier failures, however, successful protection was obtained by adding mineral oil to the vaccine to improve its potency. Recently, highly purified concentrated vaccines have been prepared which have been shown to be very effective in preventing experimental infection.

The successful use of vaccine in countries where trachoma is a major problem will require knowledge of the prevalence of the disease among the population and the type of trachoma virus strains present. Studies show that a vaccine containing one virus strain will protect against that strain but not against any of three other strains tested.

In those countries where infection occurs at a very early age, it will probably be necessary to combine antibiotic therapy of active cases with widespread vaccination of children to prevent the disease.

Field trials designed to assess the combined effect of trachoma vaccine and antibiotic therapy are now under way. Vaccines also are being field tested among first grade school children on Formosa.

Symposium on Clinical Aspects of Acute Leukemia

Sponsored Jointly

By the American Cancer Society and the National Cancer Institute
New York Hilton Hotel—May 22, 1964

Chairman: Dr. Sidney Farber

Director of Research, Children's Cancer Research Foundation
Professor of Pathology, Harvard Medical School

MORNING SESSION

9:30 a.m.

Chairman: Dr. Kenneth M. Endicott—
Director, National Cancer Institute

I. MANAGEMENT OF THE LEUKEMIA PATIENT AND FAMILY

Speaker: Dr. Sidney Farber, Children's Cancer Research Foundation

II. EPIDEMIOLOGY AND THE ETIOLOGY OF ACUTE LEUKEMIA

Speaker: Dr. Robert W. Miller,
National Cancer Institute

III. THE ROLE OF VIRUSES AS ETIOLOGIC AGENTS IN ACUTE LEUKEMIA

Speaker: Dr. James T. Grace, Jr.,
Roswell Park Memorial Institute

IV. NATURAL HISTORY AND DIAGNOSTIC PECULIARITIES

Speaker: Dr. Carl V. Moore, Washington University School of Medicine

V. CLINICAL AND RADIOLOGICAL DIAGNOSTIC FEATURES

Speaker: Dr. M. Lois Murphy, Sloan-Kettering Institute for Cancer Research

QUESTION AND ANSWER PERIOD

AFTERNOON SESSION

2:00 p.m.

Chairman: Dr. Wendell G. Scott, President,
American Cancer Society

VI. TREATMENT OF ACUTE LEUKEMIA

A. Current Results. Analysis of What We Can Now Do

Speaker: Dr. Grant Taylor, M.D.,
Anderson Hospital & Tumor Institute

B. Chemotherapy of Acute Leukemia

Speaker: Dr. Emil Frei, III, National Cancer Institute

C. Supportive Therapy in Acute Leukemia

Speaker: Dr. Emil Freireich, National Cancer Institute

VII. OBSTACLES TO THE CLINICAL CONTROL OF ACUTE LEUKEMIA

Speaker: Dr. James A. Holland,
Roswell Park Memorial Institute

QUESTION AND ANSWER PERIOD

SUMMARY AND CONCLUSIONS

Dr. Sidney Farber, Children's Cancer Research Foundation

This Symposium has been planned as an experiment in medical communication. It is intended to bridge the gap between laboratory research and care of the leukemia patient. One of the specific major objectives of the Symposium is to interpret the findings of the research conference on "Obstacles to the Control of Acute Leukemia," held March 21 through 23, 1964 and draw from them practical implications and guidelines which may be applied in practice by pediatricians, hematologists, radiologists and other medical practitioners.

The X-Ray Report

IT IS REMARKABLE that so little has been written about the technique and philosophy of the x-ray report, which represents the culmination of years of research in the physical, engineering, and medical laboratories; of years of hard-gained increments of radioclinical observations made by innumerable of our professional forebears.

The purpose of the x-ray report, which is the method of transfer of interpreted data from film to doctor, is to help the doctor help the patient. Any departure from this purpose constitutes perversion; it should be a vehicle for display neither of one's erudition (beyond the needs of the patient) nor of one's skill in the art of tight-rope walking.

Words are expensive and troublesome. They expose the user to the risks of professional, legal and moral judgment. How carefully must they then be chosen! The report should be accurate, crisp and direct; verbiage means lack of medical substance or of linguistic discipline.

The requisite for effective communication is universal acceptance of meanings for given word-symbols. A bond of understanding between radiologist and his referring doctors usually comes from their long and intimate association over the years. It might be well for the young radiologist entering a community to make known a glossary of the terms he will use. It might run such as this:

essentially normal: Minute aberrations of no immediate clinical concern. (These are dangerous words, to be used sparingly; an innocuous-looking calcified focus within the lung may be found to contain viable *M. tuberculosis*.) These words do not leave a back door to cover sloppy interpretation.

significant (especially as used in reference to displacement of bone fragments): A subtle expression of opinion that the displacement ideally should be improved upon, the final decision of course being in the hands of the referring physician in possession of all the clinical facts, such as life expectancy, cardiac status, mode of living, and the like.

survey examination: For one reason or another the examination is not complete; if the results are not in accord with the clinical data, it should be repeated.

normal at this time: One is thinking of incipient disease in the gall-bladder, for example, which might be radiologically revealed at a later date.

appears to be, looks like: Acknowledgment that radiology is the study of shadow and density, and the present evidence does not justify

unreserved affirmation. These words should not be an affected circumlocution for "is".

cancer until proved otherwise: The highest degree of certainty on the part of the radiologist. He has laid his professional reputation on the block and knows full well he has started the chain of events leading to major surgical intervention.

calvarium: Attention has been directed primarily to the cranial vault, and no special views have been made for the adequate demonstration of the base of the skull, the facial or temporal bones.

findings do not justify the diagnosis of ulcer: Acknowledgment of that broad middle band of radiologic findings that can be normal or abnormal; the clinician is "on his own".

findings justify the working diagnosis of ulcer: We are still in the middle zone, but approaching the end zone of positive diagnosis. The clinician has some, but not complete, support for an impression of ulcer.

"Impression": This introduces the conclusion to the x-ray report. Heaven knows the "impression" is not mathematics (which has been defined as the science that draws necessary conclusions), but it is the best that I know how to do, fully aware of my responsibility to the patient and to his doctor.

Does such a glossary stem from plying the art of tight-rope walking? No, just from profound understanding of the caprice and treachery in interpretation of that magical ray, and from healthy respect of the vagaries of semantics.

CHRISTIAN V. CIMMINO, M.D.

The Cats Are Out of the Bag

SEVERAL WEEKS AGO a news item appeared in the lay press from Williamsburg where the American Medical Association and the American Nurses Association were holding their first joint national conference. The release was surprising and revealing in that it highlighted the intention of the upper hierarchy of the nursing world to divorce themselves from medical supervision and to proceed on their own "independent" way. Most physicians who read this probably felt that the news must have been garbled in the reporting and turned their thoughts to other matters.

Now, however, a news release from the AMA verifies that this is exactly what happened in Virginia's Colonial Capital last month. Katherine R. Nelson, EdB, associate professor of nursing education at all-powerful Columbia University Teacher's College, "defined an area of conflict between the professional nurse and the physician." She was reported as

saying "the physician sees himself as the leader of the health care team and the nurse as a helper, but the nurse considers herself as an associate capable of judgments *independent* (italics ours) of the physician whose responsibility is to care for the ill 'with or without a doctor.'" Stripped of its ambiguity this is heady stuff.

She further said "Physicians are trying to turn the nurse into a 'practical doctor', to use the nurse's services to administer intravenous injections or give transfusions, dress patients wounds after surgery, and to solve the problems caused by lack of doctors by getting the registered nurse to do their jobs. But nurses are rejecting the idea of being 'practical doctors'—they want to be professional nurses, making their own independent judgments, giving society the benefit of their competence."

Some of the statements indicated a misgiving among nurses as to whether they were pressing their claims for autonomy too vigorously. Mrs. Marion R. Fleck, registered nurse and coordinator of health and nursing services in the public schools of Albuquerque, N. M. stated "The desire and need of nurses for self-direction may not always be understood. Nurses may, in asserting their comparatively recent professional independence, minimize the profound interdependence of our professions and clutch jealously at functions or responsibilities which must be shared with co-workers. Physicians may, in viewing developments in nursing, regard self-direction as rebellion against time-honored tradition. Is there a kind of competition for control and does it reduce effectiveness of our services?"

One note of sanity crept in when Joseph F. Sadusk, Jr., M.D., professor of preventive medicine and community health at George Washington University School of Medicine and Bernice E. Anderson, who unfortunately has retired from the professorship of nursing education at Columbia University Teacher's College, "agreed that as nurses accept greater professional responsibilities they must be prepared to accept increasing legal obligations since increased authority increased legal hazards."

All in all it was a discouraging news item and not the least discouraging aspect of it was the apparent acceptance of this new relationship by the representatives of the American Medical Association who attended the meeting. In fact, Professor Cecil G. Sheps, of Pittsburgh, was quoted as saying "the nurse is no longer a handmaiden of the physician limited to the 'Florence Nightingale type of responsibility.'" The writer is not entirely sure as to just what "responsibility" was alluded to but there is no question that the outstanding need in American hospitals today is more of the Florence Nightingale type of nursing. Nowhere in the AMA news release was it pointed out that those nurses who wish to become "associate" physicians have a wide choice of medical schools in which they may matriculate in order that their dream may become a reality.

Verily the tail is attempting to wag the dog.

HARRY J. WARTHEN, M.D.

New Members.

The following new members were received into The Medical Society of Virginia during the month of March:

Thomas Christ Apostle, M.D.,
Charlottesville
Arthur Dane Bragg, M.D., Richmond
Everett Samuel Caldemeyer, M.D.,
McLean
Harry Paul Clause, Jr., M.D., Roanoke
James Edward Comer, Jr., M.D., Roanoke
Louis William Conway, M.D., Richmond
John Frederic Denton, M.D., Warrenton
Lucy Genrose de Simone, M.D.,
Charlottesville
George Ludwig Fischer, M.D., Clifton
Forge
Jerome Davis Gorman, M.D., Danville
Richard Page Hudson, Jr., M.D.,
Richmond
Raymond D. Kimbrough, M.D.,
Annandale
Victor Lorant Liszka, M.D., Arlington
James Quinter Miller, M.D.,
Charlottesville
Donald Edward Mulhatten, M.D.,
McLean
James Brennan Purkall, M.D., Richmond
Miller Maurice Ryans, M.D., Roanoke
George Henry Shuman, M.D., Alexandria
Myrtle F. Sweimler, M.D., Charlottesville

Virginia Pediatric Society.

New officers of this society are: President, Dr. H. William Fink, Norfolk; vice-president, Dr. Robert H. Anderson, Alexandria; and secretary-treasurer, Dr. William P. Spencer, Richmond. They were elected at the annual meeting held in Williamsburg in March.

The 1965 meeting of this Society will be at the Greenbrier, White Sulphur Springs, West Virginia, February 26-28.

Dr. Margaret M. Glendy,

Roanoke, has received the 1954 Christian Excellence Medal given annually by Marymount College in Arlington.

New Organization in University Medical Affairs.

The President of the University of Virginia, Dr. Edgar F. Shannon, Jr., has announced a new organization in University medical affairs, effective July 1st. Dr. Thomas H. Hunter, presently dean of medicine on leave, will become the first chancellor for medical affairs; Dr. Kenneth R. Crispell, acting dean of medicine, will become dean of medicine; and John R. Stacey, director of the Hospital will become director of the medical center.

As Chancellor, Dr. Hunter will be responsible for the administration of all medical affairs and will report directly to the president. He has been on leave from the School since July 1962 when he left for Cali, Colombia, as a consultant of the Rockefeller Foundation to a medical school there.

The position of Chancellor will make it possible for the dean of medicine to direct his full energies to the medical faculty and curriculum. The dean will continue to have full responsibility for the School of Medicine and full authority in medical school matters.

Dr. J. Marshall Winkfield,

Strasburg, has been appointed a member of the Shenandoah County School Trustee Electoral Board.

Virginia Thoracic Society.

Dr. John Sims, Alexandria, has been elected president of this Society, with Dr. John Guerrant, Charlottesville, vice-president, and Dr. Charles Pearson, Charlottesville, secretary.

Dr. George Cooper, Jr.,

Charlottesville, has been elected Chancellor from the Council of the American College of Radiology.

Tuberculosis Group Changes Name.

The name of the Virginia Tuberculosis Association has been changed to the Virginia Tuberculosis and Respiratory Disease Association. At the annual meeting held in Roanoke in March, Dr. E. Cato Drash, president, said that the changing of the name formally recognizes the fact that TB associations have been engaged in programs of respiratory health for a long time.

Dr. Edward S. Ray, Richmond, was among those elected to the Board of Directors of the Association.

Seaboard Medical Association.

The sixty-ninth annual meeting of this Association will be held on June 19-21st at the Hotel Carolinian, Nags Head, North Carolina.

Seminar-Cruise.

Duke University is supplying for the tenth time an excellent program by outstanding members of its faculty for a medical seminar-cruise aboard the *M. S. Kungsholm*, sailing from New York on November 4th for a 12-day West Indies Cruise. There will be 24 hours of formal instructions during the cruise. For information on the medical program, contact Dr. W. M. Nicholson, Assistant Dean in Charge of Postgraduate Medical Education, Duke University Medical Center, Durham, North Carolina. If interested in literature and further information on the cruise write the Allen Travel Service, Inc., 565 Fifth Avenue, New York 17, New York.

Psychiatry Residence

For private practitioners who have had a minimum of four years practice time, armed forces time or residency training

other than psychiatry. Fully approved program for three years; adults and children; inpatients and outpatients; neurotics and psychotics, alcoholics, criminals. Adequate clinical supervision and full academic program. Full exposure to various treatment modalities from long-term psychotherapy to EST. Stipend \$12,000 per year. Write: W. A. Sikes, M.D., Dorothea Dix Hospital, Raleigh, North Carolina. (Adv.)

Associates Wanted.

Generalist, Richmond, Virginia, environs. Clinic-type practice. Will teach or may do limited surgery and EENT if interested. Salary with extras first, then partnership. Send complete biography to #80, care the Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (Adv.)

General Practitioner

Wanted to take over downtown practice. Office equipment and office available now. Only physician in downtown area. Write Suite 326, Masonic Temple, Danville, Virginia. (Adv.)

General Practitioner Wanted.

Thirty-seven-year-old white, well-established, general practitioner wants young general practitioner as associate in city in Virginia by July 1st. No obstetrics. Salary the first year during trial period. New, large, modern office. Write #10, care the Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (Adv.)

Needed.

A resident medical doctor to serve the community of Arvon and surrounding area of approximately 4,000 people. Good opportunity for more than average income for rural doctor. Anyone interested, please write or call T. A. Yancey, President, Arvon-Buckingham Slate Company, Arvon, Virginia. Phone (Office) 581-3221 or (Home) 581-3240. (Adv.)

Obituaries

Dr. Williamson Crothers Welburn,

Pioneer general practitioner in the Northern Virginia area, died at his home in Arlington on March 19th. He was ninety years of age and received his medical degree from Vanderbilt University in 1899. Dr. Welburn came to Virginia in 1905 to start his long and outstanding career in Arlington. He was one of the founders of the Arlington County Medical Society. When Dr. Welburn celebrated his fiftieth anniversary as a practicing physician in Arlington County, the Society presented him with a gold watch and established an annual award called "The Welburn Award" to be given to an individual for distinguished service to the medical community. He served in the Army Medical Corps during World War I and with the draft board during World War II. Dr. Welburn was for many years medical examiner for Arlington County and played a leading role in the development of the Arlington Hospital. He had been an active member of The Medical Society of Virginia for fifty-eight years.

His wife, two granddaughters and a number of great-grandchildren survive.

Dr. Albert Compton Broders,

Temple, Texas, died on March 27th at the age of seventy-nine. He was a native of Fairfax County, Virginia, and a graduate of the Medical College of Virginia in 1910. Dr. Broders was a member of the staff of Mayo Clinic from 1912 to 1950 and was internationally known for the grading system for malignant tumors which bears his name. Since 1950 he had been senior consultant in surgical pathology and pathologic anatomy at the Scott and White Clinic where his two sons are members of the staff. Dr. Broders was granted a year's leave of absence in 1935 to serve as professor of surgical pathology and director of cancer re-

search at the Medical College of Virginia. The College awarded him the honorary degree of doctor of science in 1929 and in 1949 Washington and Lee University conferred the same degree upon him. In 1957, at the request of the Governor of Virginia, he returned to the State's 350th Anniversary where he was honored as a distinguished native son. Dr. Broders had been a member of The Medical Society of Virginia for fifty-four years.

His wife and three children survive him.

Dr. Arthur Sumner Brinkley,

Richmond, died March 19th, at the age of seventy-seven. He was a graduate of the Medical College of Virginia in 1911. Dr. Brinkley was associated with the Retreat for the Sick Hospital for forty-five years, serving as president of the medical staff and chief of surgical service. He was also associated with the Richmond Community Hospital, St. Elizabeth's Hospital, and Richmond Memorial Hospital where he was vice chief of the medical staff until his retirement in 1958. Dr. Brinkley was associate clinical professor of surgery at the Medical College of Virginia. He had been a member of The Medical Society of Virginia for fifty-one years.

His wife and a son survive him.

Dr. Rufus Marion DeHart,

Marion, died March 29th at the age of sixty-seven, having been in ill health for several years. He was a graduate of the Medical College of Virginia in 1929. He was recently on the staff of Southwestern State Hospital. Dr. DeHart was formerly located in Radford and was one of the founders of the Radford Hospital. Dr. DeHart had been a member of The Medical Society of Virginia for thirty-four years.

His wife and five children survive him.

Dr. Cecil Guy Hupp,

Mount Jackson, died of a heart attack on March 11th. He was fifty-six years of age and a graduate of the Medical College of Virginia in 1943. Dr. Hupp began his practice at Mount Jackson in 1950 and was a member of the medical staff of the Shenandoah County Memorial Hospital. He had served as chief of the staff and assistant chief of this Hospital. Dr. Hupp served with the Army Medical Corps during World War II and after his tour of duty in Germany he accepted a position with the Newton D. Baker Veterans Hospital in Martinsburg, West Virginia. Dr. Hupp had been a member of The Medical Society of Virginia since 1948.

His mother, a brother and two sisters survive him.

Dr. Smiley.

It is with real sorrow that we record the untimely death of our member Dr. Russell B. Smiley who died December 26, 1963, at the age of 55.

Dr. Smiley, a native Virginian, was born in Halifax County and moved to Salem (at the age of 11 years) where he grew up in the midst of an atmosphere of the satisfying family practice of his father, Dr. William Macon Smiley. His older brother, Jack Smiley, also led the way for a natural choice into the field of medicine.

Dr. Russell Smiley was a graduate of Roanoke College and of the Medical College of Virginia in 1933.

He maintained a large active family practice in Salem and just within the last year found the satisfaction of the return of his only son to join him in his office in partnership practice.

He was active in the Roanoke Academy of Medicine, the Blue Ridge Academy of General Practice (of which he was a past president), the Virginia Academy of General Practice and The Medical Society of Virginia. He was also a long time member of the Salem Kiwanis Club and the Salem Baptist Church.

Russell Smiley married Margaret Duke of Louisa County, and he is survived by his wife and one son, Russell Smiley, Jr., and one daughter, Peggy Anne Smiley Mills.

He was physician for Roanoke College for a number of years and a memorial has been started to realize his desire to see a modern, well-equipped college infirmary included in the building plans in Roanoke College's expanding program.

For ten years Dr. Smiley was Health Officer for the Town of Salem and he was Medical Examiner for Roanoke County. He was a dynamic person, yet underneath a very kind hearted person with a sincere love of his fellowman.

We extend to his family our sincere sympathy and respect to his memory.

BE IT RESOLVED by the undersigned that these resolutions be included in the minutes of the Blue Ridge Academy of General Practice, a copy sent to The Medical Society of Virginia, and a copy be sent to his family.

FRED S. CRUSER, M.D.

Guest Editorial

Who's on First?

RECENTLY it has become stylish, indeed almost a fetish, with medical educators to deplore the use of private patients for teaching. Their main objection, ostensibly, seems to be a possible legal hazard, implying that a physician has no right to transfer his portion of the physician-patient contract to an intern or resident. To this end they have enlisted the aid and cooperation of the AMA Legal Department which has felt compelled to send warnings to Directors of training programs. So far as I am aware, this opinion is based on a single flagrant abuse in California in which a surgeon had either never scrubbed or had left the operating theater prematurely and permitted the resident to complete the operation.

Regarding the question of who is doing what and to whom, one might well ask "where must the surgeon stand in order to be considered the operating surgeon—on the patient's right or left side?" If he ties knots or elects to clamp bleeders rather than make the incision, is he assuming the role of assistant? This preoccupation with role definition is reminiscent of the Abbott and Costello burlesque "Who's on First".

If the internist discusses the case with the intern and permits him to write the proper orders after imparting the benefit of his experience, is he turning over the care of his patient to the intern and thus violating the implied contract with the patient? Further, is he denying the intern the opportunity to learn from his own mistakes, and if so, is this necessarily bad? The Essentials of an improved internship do not state that the intern should have complete charge but should be given increasing responsibility under supervision. If so, of what importance is the patient's financial or contractual status? When an intern has demonstrated his willingness to assume responsibility for patient care around the clock he will generally be given such responsibility whether the patients be private or service cases. Moreover, he will be given this responsibility, not necessarily in the first week or even after six months, but only at such time as the intern has demonstrated that he is ready for it.

No method for turning over the contractual and legal responsibility for patient care to a house officer or the hospital has yet been found which does not result in abdication of the accountability and moral obligation of a competent, licensed physician to the patient and/or promotion of the corporate practice of medicine.

The Council on Medical Education in its Essentials of an Approved Internship insists that an out-patient department is a necessary requirement for internship and residency approval. The field inspectors demand the sequestration of a fixed number of beds to be used solely for "indigent" patients with the strong admonition that they remain empty rather than permit their occupancy by private patients. The requirements imply further that the house officer have what amounts to essentially full charge of these "indigent" patients in the third and fourth years of a surgical residency. The field inspectors emphasize resident autonomy to a greater degree than the Essentials. The rules further imply that no hospital in which private patients predominate should attempt to develop intern programs. If this were strictly adhered to many University Hospitals would be required to curtail their internship programs.

Since the training of all interns should be supervised, the insistence upon the use of service cases loses much of its conviction, for while new physician crews can and should be constantly trained it would seem that all patients are entitled to an experienced ship captain regardless of their financial status or level of medical indigency. The truth is that genuinely indigent patients are scarce, and the declining number of persons unable to pay anything toward medical care has prompted use of the term "medical indigent" in order to bring into the fold those persons who have access to partial resources. This has not only compounded the problem of definition of "indigency" but also has injected the question of who should collect third party coverage fees. Strong objection has been voiced by a large segment of organized medicine against the collection of fees by House Staff members or the hospital.

In the days when there were truly indigent patients and no payments were made to physician or hospital, there was no question regarding responsibility since it was assumed by the physician on service. Under those conditions the chief of service did not give complete charge to the house officer but personally saw the patients at least once daily, and, if anything, gave them even closer personal attention than he did his own private patients. The intern and resident learned much of the subtle side of history-taking and of general bedside techniques by watching the senior clinician at work.

Many eminent physicians have been trained in private hospitals or

clinics. Most general practitioners have had their internships in non-university hospitals and many of them are probably doing general practice because of it. To belittle the educational effort of such hospitals because of the dearth of indigent patients or lack of an out-patient department bespeaks a lack of insight into the important service functions of private community hospitals and the contributions they are making to the practice of medicine and to teaching.

In the opinion of many, the private community hospital is an excellent place for graduate training because after four years of scientific training in medical school the intern can profit by putting more emphasis on the art of medicine through the study of patients as a co-observer with the attending physician. There is the added advantage that the cross-section of patients seen in a community general hospital more nearly reflects the population and diseases which the young physician will encounter in private practice. This provides a most proper and fitting introduction to general practice. Many physicians of professional stature in the community have received excellent internship and specialty training over the years in hospitals or clinics in which private patients predominate. There is no substantial reason for assuming that the properly utilized private patient should no longer be regarded as satisfactory for teaching. It does not seem proper or even morally correct for "medically indigent" patients to be assigned outright to house staff members, even though this is now being done in several institutions in violation of agreements made between physicians and the various service plans. If such transfer is not for the purpose of giving the intern free reign, then these patients might just as well remain the private patients of attending staff physicians. Any patient, regardless of his financial status, has a right to expect that the management of his illness will be directed by a competent, licensed and responsible physician. Whatever learning experience such care affords the young physician should be only incidental to the patient's welfare.

ANGELO LAPI, M.D.

*101 Memorial Drive
Kansas City, Missouri 64108*

The Management of Latent Effects of Bony Orbital Injury

JOHN A. GILL, M.D.
Richmond, Virginia

Injury to the floor of orbit may result in unilateral enophthalmos and diplopia. This type injury is discussed and a corrective operation is described.

INJURY which is the result of a blow received in the orbital region occasionally leads to facial asymmetry and loss of eye muscle function that is difficult to predict at the time of incipient or emergency treatment. There are two reasons why these injuries, initially, are not attended. The first is that accidents involving people and automobiles, frequently, are devastating to the point that saving the life of the injured person must be the paramount guide for treatment, and other less demanding contusions are quickly eliminated from the agenda of emergency care. A second reason is that some orbital injuries which later result in marked facial disfigurement and diplopia are difficult to recognize because the immediate swelling from extravasation of blood in the orbit obscures the defect that has occurred and, in fact, preserves vision without diplopia to a satisfactory degree. Only when this extravasation is eliminated by the normal processes of resolution does the disfigurement and inadequacy of function make themselves apparent. This evidence may take a period of several weeks to become manifest. The problem to be faced, therefore, is what to do when the cumulative effect of

the injury is finally recognized. The patient who presents himself with that enigma, the latent effects of orbital injury, will offer the following findings to point out the diagnosis:

1. Unilateral enophthalmos.
2. Diplopia either in all quadrants or on upward gaze only.

These two physical signs, coupled with a history of injury to the involved side, secure an obvious diagnosis. Further study, such as noting the presence of anesthesia over the distribution of the infraorbital nerve and x-rays in the form of laminograms of the maxillary sinuses may or may not offer additional help.

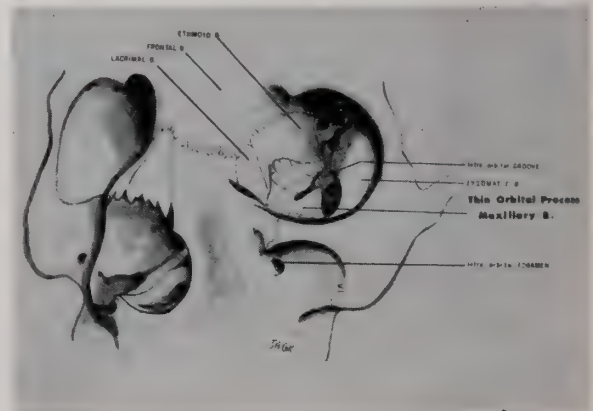


Fig. 1. Illustration of bony orbital anatomy. The cross hatched area denotes the most fragile portion.

To comprehend this problem one must be reasonably familiar with the orbital structure. This illustration in Figure 1 demonstrates anatomical features which promote this understanding. Note that the orbital rim is heavily constructed, remarkably sturdy, in its entire circumference. Progressing into and beyond the rim, the bony structure becomes considerably more delicate but yet well sup-

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ported. For example, the lamina papyracea of the ethmoid bone is, as its name suggests, paper thin, yet medial to and buttressing this thinness are the numerous horizontal dividing walls of the ethmoid sinus cells which are an integral part of this bone. Each of these walls serve as independent supports. Laterally, the orbital process of the zygomatic bone forms a solid and massive footing. Superiorly, the orbital process of the frontal bone, though a thin plate, is firmly laminated by thickened ridges presenting in the anterior cranial fossa. The main weakness is the floor of the orbit, the orbital process of the maxillary bone.

In this plane, the bone is almost as paper thin as the lamina papyracea of the ethmoid bone, and its only point of strength is the tubular bone canal within the wall housing the infraorbital nerve.

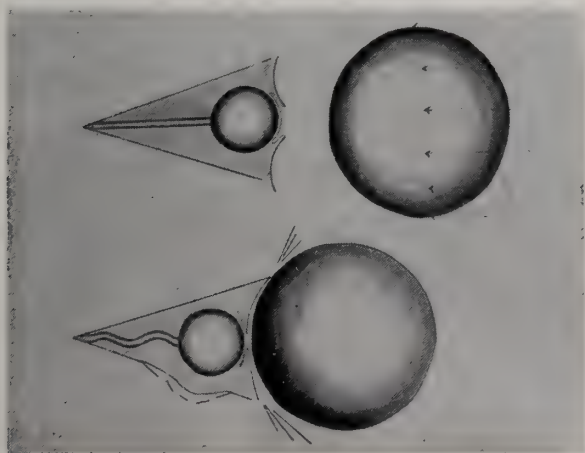


Fig. 2. Diagrammatic representation of the mechanics of a spherical object striking the orbit, sharply compressing its mobile contents within this restricting confinement to the point that the weak floor must yield to this compression.

Figure 2 is a diagram representing the mechanics of orbital injury as worked out by Smith and Regan.¹ The top drawing shows a hard spherical object speeding towards the orbit. The lower drawing shows the contact between the orbit and the object causing a sudden compression of the globe of the eye and its surrounding media. This results in the blowout evidenced by the loss of integrity of the inferior margin and the downward herniation of the orbital contents.

It now must be perceived what takes place when this weak portion of the orbit is demolished. The dynamics of this condition is explained with reference to Figure 3. There are four diagrammatic drawings in this group, each portraying the eyeball, orbital fat and

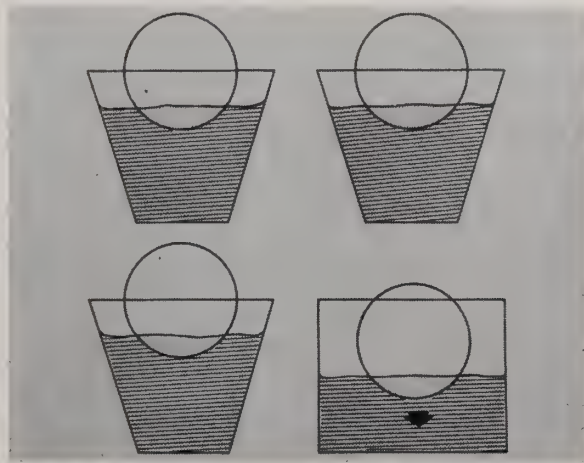


Fig. 3. The dynamics of the production of enophthalmos according to Converse and Smith.² The top two figures denote the equally paired orbits which in turn are represented by glass containers as bony orbits, water as orbital fat and ping pong balls as globes of the eye.

The lower two figures show that the glass on the left has become larger but the volume of water remains the same, resulting in the globe receding below the orbital rim on that side and consequent enophthalmos.

bony orbit. For the sake of simplicity, the globe of the eye is represented by a ping pong ball, the orbital fat by water and the orbit by a small glass container. The top two figures denote the normal state, everything equal regarding the paired eyes. The bottom two represent what happens when one of the orbits is expanded from the forced pressure of injury depicted in Figure 2. Note that the cup on the lower left has become larger. The volume of water remains equal in both cups. However, the water level is lower on the left and, therefore, the ping pong ball is lower than that on the right. This is what happens when the weak area, the roof of the maxillary sinus, yields to the pressure of injury or is "blown-out", creating, literally, a larger orbit and, consequently, unilateral enophthalmos.

This discussion will deal with two types of orbital blowout: (1) blowout associated with injury to the orbital rim and (2) blow-

out with the orbital rim intact. The first of these is, by far, the more common injury and is more complicated to manage especially if treatment is delayed. Fortunately, treatment usually is not delayed, and most of these types of defects when handled early after injury respond well to a Caldwell-luc type of approach and support of the sagging orbital floor by means of packing within the antral sinus. However, the immediate treatment is not the object of this discussion. Again, I wish to point out that proper supportive treatment of the orbit may not be possible initially, and a later time must be elected for this care. Or the treatment, initially, may be a failure so that the floor of the orbit still sags. Enophthalmos reappears and diplopia is an additional burden. It is this later treatment that I wish to discuss which is a different problem because of the increment scar tissue. With the passage of time, the aggrandizement of scar tissue and the union of bones in improper alignment, the problem of correcting traumatic enophthalmos with rim disruption is a perplexing one. Since it is, essentially, a unilaterally enlarged orbit that presents itself, a means of reducing this size must be used if one is to correct the disfiguring enophthalmos and the diplopia. This reduction of an abnormally large orbital volume can be accomplished by first lifting the herniated orbital contents out of the maxillary sinus and returning them to their original location and, secondly, preventing the recurrence of downward herniation by means of a solid bone graft properly fitted over the gaping blow out defect on top of the fragmented roof of the sinus. Such a maneuver eliminates both enophthalmos and diplopia without further surgical invasion of the antral sinus. Autogenous bone obtained from the inner aspect of the ilium lends itself very well to this purpose. I shall not pursue, in detail, the maneuvers for procurement of autogenous iliac bone, but I shall comment on one technical singularity of this procedure which considerably reduces postoperative discomfort in the hip.

This maneuver illustrated by the photographs in Figure 4 accomplishes the following purpose. It secures a line of healing and subsequent scar which will be well below the crest of the ilium in a relatively insensitive area, an area that does not project to



Fig. 4. Maneuver for eliminating skin scar over crest of ilium when obtaining autogenous bone graft.

a) (Top photograph)—Location of skin incision is two fingerbreadths below painted line on skin where iliac crest presents.

b) (Lower photograph)—This incision is accomplished by having the operating assistant pull the skin located below the crest up over the crest by finger pressure traction on the inner aspect of the ilium while the incision is being made.

receive the expected contusions which the hip is accustomed to receive. Using this maneuver has seemed to eliminate complaints about lasting pain or discomfort even in patients who have had more than one bone graft taken from the same ilium at different times. When the graft has been obtained, the wound over the hip is closed, drained with a 1/4 inch Penrose drain and covered. The bone graft is stored in a Petri dish in the

patient's blood. The floor of the orbit is then approached.

Figure 5 illustrates a direct surgical approach for exposure of the floor of the orbit. An incision is made in the skin overlying the orbital rim. The incision is carried through



Fig. 5. Floor of orbit ready to receive bone graft.

the filamentous orbicularis oculi muscle and the periosteum over that part of the orbital rim which is intact. The periosteum is incised and meticulously elevated. Carefully keeping in this line of cleavage, the orbital contents are lifted out of the maxillary area, tediously dissected free from the more dependent comminuted fragments of the bony floor of the orbit without exposure of orbital fat if possible. This dissection is carried slightly beyond the circumferential border of the defect so that an adequate shelf for support of the graft is then assured. The graft is then trimmed to fit this pocket. Figure 5 further illustrates that the orbital contents are being gently retracted superiorly by a malleable retractor which is of proper width for this purpose. The graft is seen below on the cheek held by an Ochsner clamp poised for insertion.

The bone graft having been positioned, 5 - 0 catgut is used to approximate the orbicularis oculi muscle. The skin is closed with 5 - 0 continuous subcuticular dermalon. A

horizontal 5 - 0 mattress suture is used to hold the upper and lower eyelids together to prevent blinking of the eye under a light pressure dressing. This is the technique that was employed in the management of the following cases. A review of these cases is

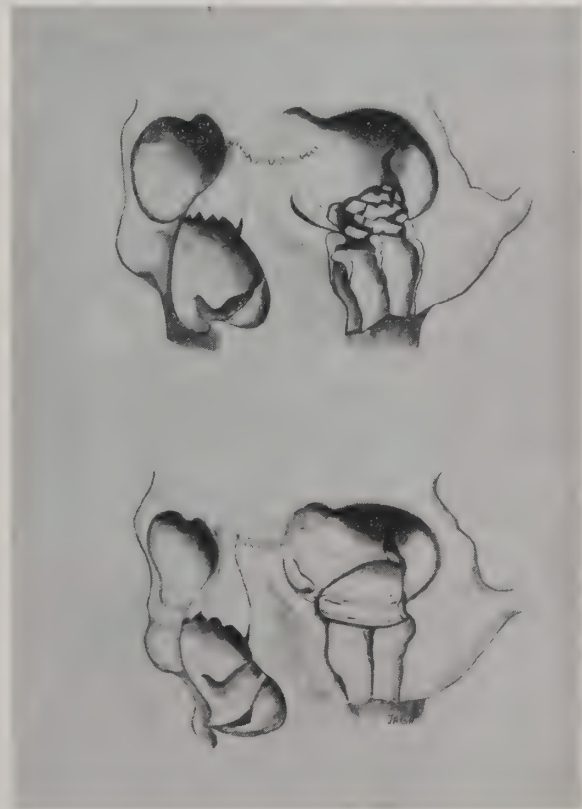


Fig. 6. The top drawing represents the condition of the left orbit in Case 1. Note that the inferior orbital rim as well as the orbital floor is disrupted and depressed. The bottom drawing shows the position of the bone graft restoring the rim and the continuity of the orbital floor.

presented to illustrate two types of orbital injury, those with rim injury and those without rim injury and to outline a surgical approach for remedy of the problem when there has been ample time for the contraction of scar tissue to set in.

Case 1. A 43-year-old white female was injured in an automobile accident in May, 1958. She was treated in a local hospital where an attempt was made to correct a fractured depressed zygoma on the left. She stated that packing was used in her left antral sinus which, eventually, was removed through a canine incision in the vestibule of

the mouth. Approximately three months later she began to suffer with pain in the left cheek and a purulent nasal discharge

enophthalmos, depression and flattening of the cheek bone, obvious clinical signs of purulent maxillary sinusitis and a malfunc-



Fig. 7. Top two photographs are preoperative photographs. Bottom two photographs show the same views postoperatively of Case 1.

on the left. I saw her for the first time on the 5th of March, 1959, ten months after her accident. She demonstrated unilateral

tioning tear duct system all on the left. She also complained of diplopia.

On the 3rd of April, 1959, under general

anesthesia, a Caldwell-luc type of exposure of the left maxilla was done, and a hypertrophied diseased mucous membrane was removed from the antrum. The cavity was filled with pale, creamy, pus. No antrostomy window was found, and a naso-antral window was constructed. Additionally a lateral orbital incision was made, and an attempt was carried out to elevate the lateral zygomatic fragment attaching it with wire to the zygomatic process of the frontal bone. The result of these procedures was that the purulent condition of the antrum was eliminated, but the enophthalmos and other signs remained unchanged.

On the 22nd of May, 1959, six weeks later, another procedure was done. Under general anesthesia autogenous iliac bone was obtained from the left hip. Through an inferior orbital rim incision, the floor of the left orbit was exposed. Figure 6 demonstrates the findings and subsequent bone grafting.

The periosteum was carefully elevated from the depressed orbital bone fragments and the rim was found to be lowered by 1.5 centimeters from its normal position. The bone graft was tailored to make up for this loss of continuity of the rim and to extend the apex of the orbit to elevate the freed orbital contents. No orbital fat was exposed.

The results of orbital grafting in this case show that the malar prominence has not been restored and the depth of the supratarsal sulcus, though less than before operation, is still exaggerated. However the diplopia was corrected. More bone grafting would improve the facial symmetry, but this patient declined to have this done. An ophthalmologist, subsequently, has performed surgery to reestablish the tear duct function, and she is satisfied with her condition as it now exists.

Case 2. A 15-year-old white male of slender build received a fist blow to his left eye in April of 1960. He thought that he had merely sustained a severe black eye. However, a little more than two months after injury, he began to notice diplopia

which prompted his seeking medical attention.

The findings on initial examination are illustrated by the preoperative photographs shown in Figure 8.

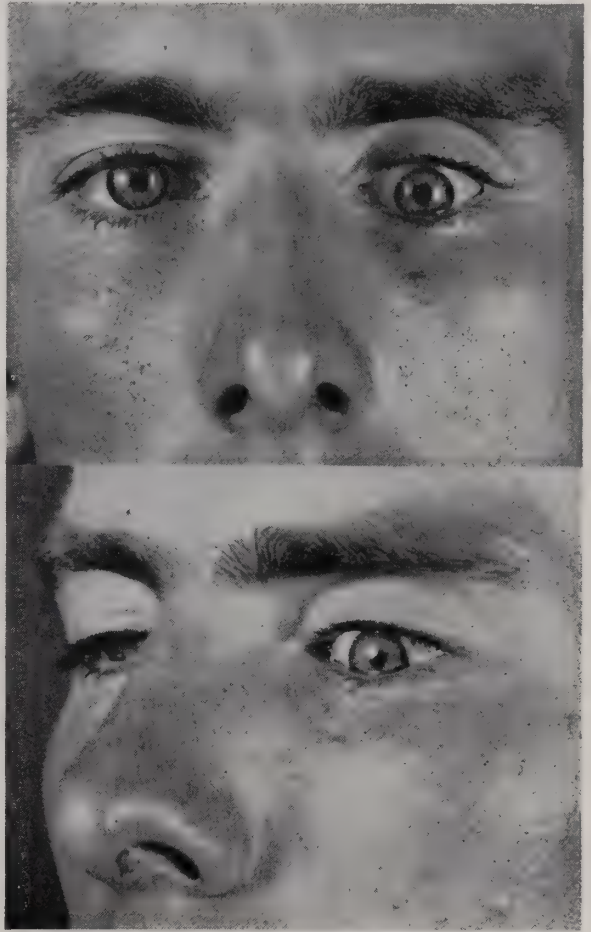


Fig. 8. Preoperative photographs of Case 2.

These photographs show, mainly, the enophthalmos on the left and that the globe of the eye is lower than that on the right.

On the 22nd of July, 1960, under general anesthesia, an autogenous iliac bone graft was taken from the inner aspect of the left ilium. The floor of the orbit then was explored through an inferior rim incision. The orbital rim was intact.

As illustrated in the top drawing of Figure 9, the shattered roof of the maxillary sinus was gingerly separated from the orbital contents and periosteum. It was in this plane that the bone graft was inserted.

In Figure 10 it is evident that the en-

ophthalmos is corrected. The contours of the supratarsal sulci are now equal. The patient no longer complained of diplopia.

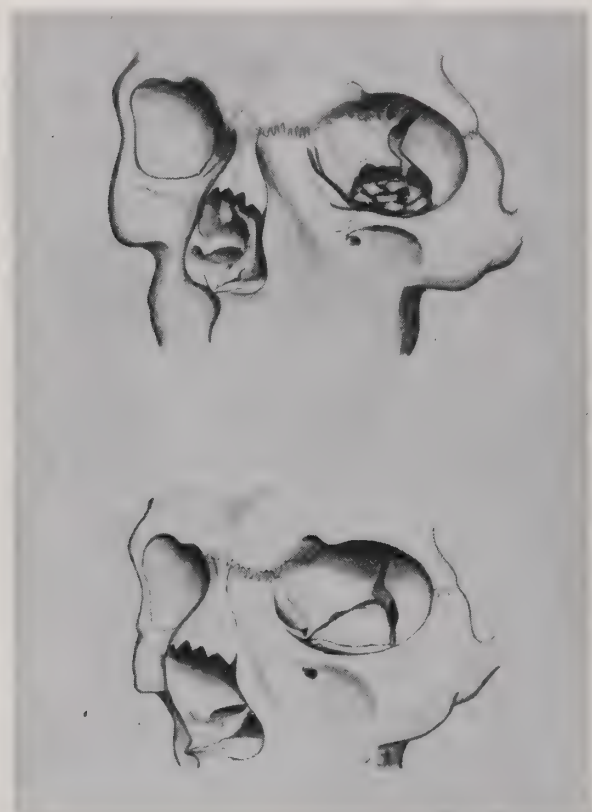


Fig. 9. The top drawing represents the condition of the left orbit in Case 2. Note that the orbital rim is intact but beyond the rim the floor of the orbit is shattered. The bottom drawing shows the bone graft within the orbital floor restoring its continuity.

Scarring is minimal despite insertion of graft through a skin incision over the orbital rim.

Comments

There are other methods which can be used to correct this dysfunction and deformity. These modalities are pursued through the Caldwell-luc approach³ and are dependent upon forcing the contents of the orbit upwards by various supports which have their footing in the antrum. These supports consist of gauze packing, metallic jacks and rubber balloons filled with water. These all have the advantage of obviating the hip operation. However, the main argument against antral sinus supports in the face of organized scar tissue is that it pits

one force against another whereas the bone graft circumvents the force of the scar by going above it. For this reason the technique

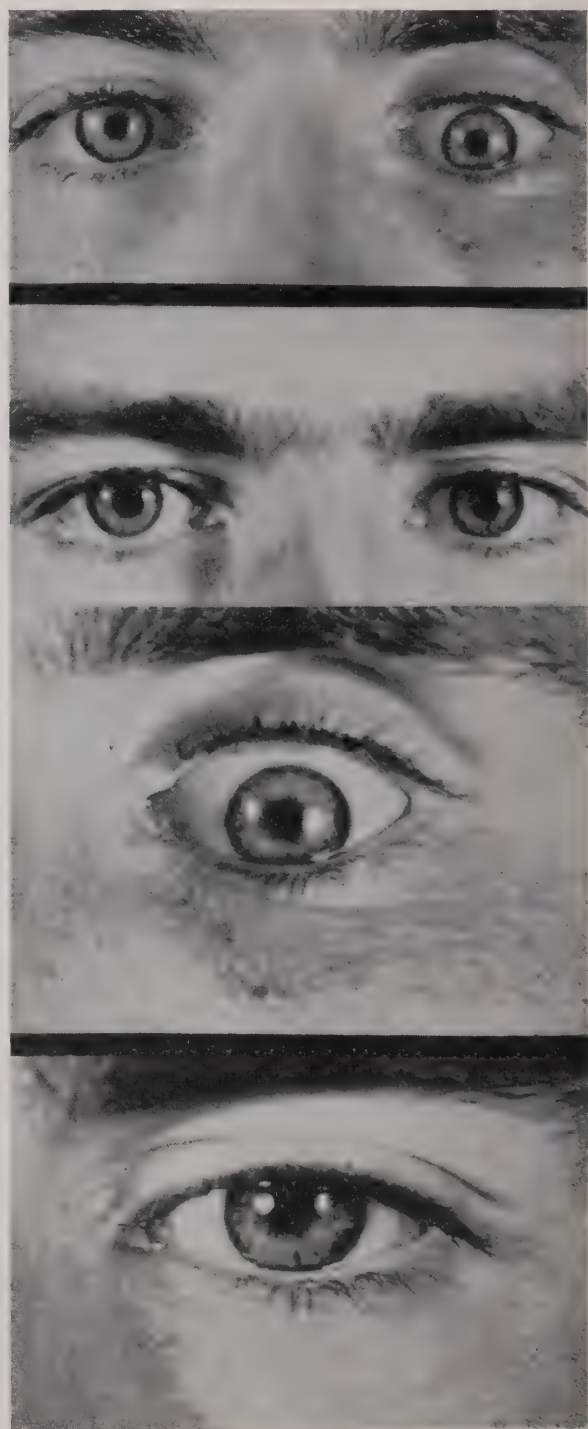


Fig. 10. Postoperative results in Case 2.

of bone grafting appears to make success more of a certainty and, therefore, was utilized in these two cases.

Summary

The mechanics and dynamics of orbital injury resulting in unilateral enophthalmos is reviewed. Two types of orbital blowout fracture, those with injury to the orbital rim and those without rim injury are analyzed. The problem of what to do when these injuries are well fixed with organized scar tissue is reviewed. Finally, two cases of orbital blowout fracture are presented: one with rim injury, and one without rim injury. The use of autogenous iliac bone grafts to the floor of the orbit is advocated as a means of correcting these defects.

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Pet Dogs Get 'Human-Like' Condition

Pet dogs fed human foods develop "human-like" hypercholesteremia, a high level of cholesterol in the blood, a study shows. Pet dogs given dietary supplements of human food were compared with laboratory dogs fed dog food in a study reported by Irwin Schiller, B.S., Nevin E. Berglund, D.V.M., J. R. Terry, D.V.M., Ronald Reichlin, Richard E. Trueheart, M.D., and George E. Cox, M.D., Evanston, Ill., in the April Archives of Pathology, published by the American Medical Association.

Among the 160 healthy pets of relatively affluent families, a high "human-like" incidence of mild to moderate hypercholesteremia was found. The mean level of cholesterol among the pets was three-fourths higher than the mean of 156 normal laboratory

dogs kept in hospital animal research quarters.

The typical diet of the pets was a commercial dog food, probably low in cholesterol, and supplements of human foods recommended by veterinarians. The laboratory dogs were fed stock commercial dry laboratory biscuits and white bread, sometimes horse meat.

The authors estimated that human foods increased the cholesterol intake of the pet dogs many times and that the daily total fat intake was probably about twice that of the laboratory dogs.

The "true cause" of the frequent incidence of hypercholesteremia in pet dogs might well be their habituation to dietary supplements of human foods, such as meat, milk, eggs, and products thereof.

Endocrine Ablative Procedures for Recurrent and Inoperable Breast Carcinoma

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Sufficient experience in the treatment of carcinoma of the breast has accumulated to demonstrate unequivocally that when used in a rational sequence endocrine ablative therapy will produce disease remission lasting from months to years.

DISSEMINATED BREAST CANCER is a problem of considerable magnitude as illustrated by the fact that approximately 70% of all patients with mammary cancer will ultimately be candidates for some form of palliative therapy.² Radiation therapy, the most effective form of palliation, can be expected to yield regression of disease in 65% of patients treated.⁸ Therefore, when feasible, this type of palliative therapy should be applied initially, and should be continued for the duration of its effectiveness in controlling the disease. This paper is an endeavor to determine what palliative modality we should next consider in our efforts to achieve disease remission.

Numerous reports have been published since the initial studies of Schinzinger¹¹ and Beatson⁴ which demonstrate that successful hormonal therapy for disseminated breast

cancer not only results in relief of pain and healing of demonstrable cancerous deposits, but also significantly prolongs the life of the patient. The form of therapy is based on the knowledge that alteration of the endocrine environment of a tumor cell will occasionally produce a milieu unfavorable to the tumor's growth. The problem of predicting which tumors will regress and which will not regress remains unsolved. Therefore, we have of necessity based our program of therapy on general principles evolved from past experience rather than upon an understanding of the growth potential of individual mammary cancers, and have used as the basis for treatment the patient's physiologic age as the most important single factor.

It has been our impression that the probability of worthwhile remission of disease in patients with advanced breast cancer is higher with the endocrine ablative procedures than with exogenous or additive hormone therapy.^{1,2,3} This study is an effort to corroborate this impression, and to determine on the basis of information presently available at the University of Virginia Medical Center what is actually the most rewarding approach to hormonal therapy. In spite of many gaps remaining in our knowledge we believe that sufficient data are now available to initiate meaningful correlations.

Patient Series and Selection

This report includes all patients who have undergone endocrine ablative therapy (oophorectomy, adrenalectomy or hypophysectomy) for recurrent or primarily inoperable breast carcinoma at the University of

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Presented at the Annual Meeting of The Medical Society of Virginia, October 6-9, 1964.

Virginia Hospital. Poor operative risks were not excluded regardless of whether the increased risk was due to unrelated organic illness or to the advanced nature of the metastatic disease. Most patients in this series were either treated initially with radiation and then offered ablative therapy or were given radiation in conjunction with the latter. All premenopausal patients had oophorectomy either prophylactically or at the time of the disease recurrence. A report dealing with the patients who underwent a prophylactic oophorectomy at this institution has been published.³ We have included in this study only that group of patients who had the ovaries removed therapeutically for disease recurrence. Menopausal patients had adrenalectomy and oophorectomy as a combined procedure. Those who were postmenopausal, 5 to 10 years, had only adrenalectomy. The choice between hypophysectomy and adrenalectomy was more or less on a random basis, and frequently was dictated by the technical ease of the procedure in the respective patient.⁵

The only definite criterion for patient selection was the presence of either a primarily inoperable breast malignancy and/or recurrent, diffuse metastatic disease which was not controllable by other means (x-ray therapy). Contraindications to ablative therapy as enumerated in a preliminary publication¹ included the presence of extensive liver metastases, symptomatic intracranial metastases, and pulmonary involvement so advanced as to significantly reduce pulmonary function. As previously stated, nodular pulmonary lesions and/or pleural effusion are not considered a deterrent to ablative surgery.¹

Results

The criteria for assessing response to the ablative procedures have been previously reported,¹ and are similar if not identical to those from other institutions.^{9,12} We believe subjective as well as objective considerations are of importance when evaluating pallia-

tive effectiveness. However, subjective responses including relief of pain, increased sense of well-being, decrease in cough and dyspnea, and weight gain are not considered improvements if there is obvious objective evidence of disease progression. The cases included in this report have been arranged in these three groups: 1. oophorectomy, 2. adrenalectomy, 3. hypophysectomy for presentation of the results.

FIGURE 1

BREAST CANCER: PALLIATIVE THERAPY OOPHORECTOMY	
BREAST CANCER PALLIATIVE THERAPY-OOPHORECTOMY	
Total Cases.....	66
Op. Mortality.....	0
No Remission.....	36-54%
Remission.....	30-46%
Average Period of Remission 20.6 mo.	
Span 1-84 mo.	

There were 66 patients in this group all of whom were either actively menstruating or were in the early menopause, and had either primary inoperable or recurrent carcinoma of the breast. Forty-six per cent of these patients achieved an objective remission for an average duration of 20.6 months. We were unable to demonstrate any correlation between the patient's age and the likelihood of response as previously reported.¹² There was some relation to the "free interval" in that the longer the period between primary and recurrent disease the greater the incidence of disease remission following an oophorectomy.

FIGURE 2

BREAST CANCER: PALLIATIVE THERAPY ADRENALECTOMY	
BREAST CANCER PALLIATIVE THERAPY-ADRENALECTOMY	
Total Cases.....	56
Op. Mortality.....	4 - 7%
No Remission.....	28*
	-55%
Incomplete.....	3
Remission.....	21 -38%
Average Period of Remission 9.8 mo.	
*Includes no follow-up and equivocal response.	

Adrenalectomy alone or in combination with oophorectomy in patients who were

recently postmenopausal was performed on 56 patients. In the menopausal or postmenopausal patient with disseminated breast cancer this procedure resulted in 38% remission which lasted an average of 9.8 months. The operative risk was 7%, a percentage which was comparable to other series,^{7,12} but none the less bears improving. Again, there was no statistical correlation between the patient's age and the chance of disease remission. We found, as did others,^{7,9,12} that there is no infallible method of predicting response to adrenalectomy, although prior response to oophorectomy seemed to enhance the probability of remission.

FIGURE 3

BREAST CANCER: PALLIATIVE THERAPY HYPOPHYSECTOMY
BREAST CANCER
PALLIATIVE THERAPY-HYPOPHYSECTOMY

Total Cases.....	49	
Op. Mortality.....	9	-18%
No Remission.....	19*	-39%
Incomplete.....	1	
Remission.....	21	-43%

Average Period of Remission 9.5 mo.
*Includes no follow-up and equivocal response.

In the 49 patients who underwent removal of the hypophysis a remission rate of 43% was obtained. Our results agreed with those reported by Ray¹⁰ in that a slightly higher percentage of remission was achieved by this procedure than by adrenalectomy. The high mortality of 18% is explained in part by the initial performance of this procedure only in patients with far advanced disease who constituted a very poor risk. Elimination of the first ten cases performed would substantially reduce this figure (10%). The most striking similarity between this procedure and adrenalectomy was found in the likelihood of a remission if the patient has shown a previous response to oophorectomy or to the administration of androgens. The comparatively short duration of response, 9.5 months, is probably a result of our inclusion of all patients who exhibited an objective response as early as one month postoperatively.

Discussion

A sequential program of management has been developed for treatment of patients with advanced breast cancer at the University of Virginia Medical Center on the basis of the experience with our own group of patients and other reported series.

Patients with inoperable or recurrent breast cancer are divided for therapeutic purposes into groups according to their physiologic age as determined by their menstrual status. It should be reiterated that radiation is the primary therapeutic palliative modality and is utilized for localized lesions which are controllable by this means.

If the patient is premenopausal, oophorectomy is always the first palliative procedure for these reasons; first, it is a simple procedure and carries little operative risk. Second, it produces the best results as measured by chance and duration of remission. Third, it furnishes a prognostic index upon which subsequent therapy can be based.

Menopausal patients are offered adrenalectomy/oophorectomy or hypophysectomy. The choice of the procedure depends on the apparent technical ease of one over the other procedure in each patient, since it is generally agreed that essentially the same hormonal mechanisms are involved.⁶ The postmenopausal patients are treated identically except that the ovaries are of less concern unless there is demonstrated evidence of ovarian function.

We recognize that there are numerous variations of this therapeutic theme which have in isolated circumstances afforded relief and prolongation of life for individuals with advanced breast cancer. We found the management sequence stated above resulted in the highest incidence of predictable response and for that reason is with only occasional variation currently employed.

Summary

In 157 patients with advanced or recurrent breast cancer seen at the University of Virginia Medical Center, one or more of the

endocrine ablative procedures were performed which included therapeutic oophorectomy, adrenalectomy, and hypophysectomy. An analysis of the results of these procedures indicates that a significant number (44%) of patients with advanced breast cancer can benefit by this alteration in their hormonal status. It is unequivocally demonstrated that when used in a rational sequence endocrine ablative therapy will produce disease remission lasting from months to years.

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Quicker Way to Screen for Phenylketonuria

A quicker method has been devised for screening newborn infants for phenylketonuria, a hereditary disease which can cause mental retardation. A determination can be made within 16 hours following a laboratory test on a blood sample from a baby's heel, according to a report by David Yi-Yung Hsia, M.D., Julian L. Berman, M.D., and Herman M. Slatis, Ph.D., Chicago, in the April 20th *Journal of the American Medical Association*.

In the past few years, the testing of urine for phenylpyruvic acid has been used as a means of screening newborns for the disease. Although this test is relatively simple, affected infants frequently do not show a positive test until four to six weeks of age.

By that time, the babies will have been discharged from the hospital and complete follow-up is difficult.

The blood test method, which measures the level of phenylalanine in the blood, has been used on 4,000 newborn infants from five Chicago hospitals. The blood tests were performed at a central laboratory where as many as 150 samples could be processed by a technician in a day.

"This method appears to combine a high probability of detecting affected infants with a small frequency of false positives." Only eight of the 4,000 infants showed a phenylalanine level above the upper limit of normality.

Consideration in the Management of Spontaneous Pneumothorax

Simple & Chronic

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Unilateral spontaneous pneumothorax for the first time is likely to clear up with conservative management. Recurrent or complicated spontaneous pneumothorax, however, will probably require surgery.

PAST EXPERIENCE has shown that many patients with a first episode of spontaneous pneumothorax will respond to simple management—either conservative if the collapse is less than twenty per cent, or intercostal catheter drainage, if greater. This study presents thirty-seven patients with primary or simple pneumothorax of which twenty-two had a second collapse. An additional fourteen patients were seen with a history of more than one collapse but were seen by another physician.

There is no argument that conservative treatment is soundly indicated in patients having small apical pneumothorax since most of these patients re-expand their lung after several days of bedrest. However, the method of management of patients with a larger pneumothorax (greater than 20%) must be scrutinized since incorrect therapy may result in extended loss of time as well as unfortunate complications. These will be examined objectively on the basis of an experience with fifty-one patients over a four year period.

Definition

This disease entity is a common benign occurrence in the young adult. In this series the ratio of male to female was eight to one with the average age being 29.5 years. The underlying pathological process consists primarily of subpleural air vesicles or blebs presenting as small thin walled beads along the edge of the apical and posterior segment of the upper lobes. Rupture of these blebs causes a sudden change in intrapleural pressure with resultant collapse of the lung. The degree of collapse depends upon the size of the bleb and the consequent air leak. Re-expansion of the lung without surgical intervention depends upon the degree of healing of the ruptured vesicle, whether or not the collapse itself has caused coaptation of the edges of the bleb with fibrin sealing and consequent re-expansion of the lung. The larger cysts frequently remain collapsed and with a large air flow through the vesicle-pleural fistula, re-expansion becomes impossible. Occasionally, a hemothorax results from tearing of apical inflammatory adhesions. These can be remarkably vascular and it is not uncommon to find a spontaneous hemopneumothorax with a patient in shock when first seen.

It is presumed that whether large or small, the air vesicles found at the apex are forerunners of the more diffuse process called "emphysema". The origin of such vesicles or blebs are probably secondary to a congenital weakness in the supporting elastic structures of the lung parenchyma itself,

rather than secondary to a disease process such as tuberculosis or other infections.

Primary Collapse—Simple Spontaneous Pneumothorax

The "simple" type of spontaneous pneumothorax is a primary occurrence with a collapse of less than twenty-five per cent. Usually, no surgical intervention is required and a program of bedrest, no exertion, et cetera, is satisfactory and results in re-expansion of the lung after approximately two to five days. In collapse greater than twenty per cent, intercostal catheter drainage should be used for several days after which time the lung will have expanded and the chest tube become sealed. Removal of the catheter can safely be done at this time. Broad-spectrum antibiotics should be given during the period the tube is in the pleural cavity. Bilateral pneumothorax should invariably have bilateral catheter drainage and strong consideration for primary resection of the apical bleb on at least one side.

Hemothorax Patients Require Special Consideration

Streptokinase and streptodornase (varidase) are administered intrapleurally to aid in the removal of clotted blood. This should be done within seventy-two hours of the time bleeding has stopped, or prior to organization of the clotted blood. Frequently, the pleural reaction caused by the varidase will result in a visceral and parietal symphysis if, at the same time, adequate lung expansion is maintained by catheter suction. In those patients having hemothorax, a thickened pleural peel is usually found regardless of the use of varidase. Decortication is indicated where a "peel" is sufficiently thick to prevent adequate re-expansion of the lung or result in fibrothorax. Decortication should be performed within six weeks of the hemothorax if the "pleural peel" is to be easily removed.

Mediastinal pneumothorax may also occur, although infrequently, following spon-

taneous pneumothorax. Indeed, mediastinal pneumothorax may occur without any evidence of pulmonary collapse. This complication is easily and quickly diagnosed by the symptoms of rapid spread of subcutaneous air over the upper chest, neck and face. There is a crackling sound (Hamman's Sign) characteristically heard by both patient and physician. Diagnosis can be confirmed by chest x-ray which may or may not reveal associated pneumothorax, but which will, certainly, show a meniscus surrounding the pericardium, great vessels and the other mediastinal structures. Severe subcutaneous emphysema can be both uncomfortable and dangerous. Mediastinal structures can actually be compressed causing tracheal deviation, extreme dyspnea, superior vena caval obstruction, et cetera. Treatment consists of intercostal catheter drainage of the existing pneumothorax which usually controls the subcutaneous emphysema. Further therapy, if indicated, consists of cervical mediastinotomy or at least the incising of the pretracheal fascia to allow escape of air. Occasionally, a tracheotomy is necessary which serves to decompress the trapped air and to decrease dead space in the respiratory tree.

Handling of Pleural Fluid

Usually no pleural fluid is present. Occasionally, however, pleural fluid forms at the base, especially if the collapse has gone unattended for several days. Also occasionally, spontaneous hemothorax occurs, and this is associated with the obvious complications of shock, lowered resistance, emphysema, and occasionally severe bleeding.

The occurrence of pleural fluid or hemothorax require catheter drainage in a dependent position through the seventh or eighth intercostal space. Simple small air spaces without pleural fluid can be decompressed through the second or third intercostal spaces anteriorly. Following catheter drainage, there may be no further episodes of pneumothorax. However, recurrence does

occur, and unfortunately appears in about fifty to sixty per cent of cases or approximately twenty-two of the thirty-seven patients seen in a series of simple pneumothorax. This group with a second occurrence of pneumothorax is called the "chronic pneumothorax group". The complication rate in this group doubles. Tension pneumothorax, complete pneumothorax, hydro-pneumothorax and hemopneumothorax all occur with increased incidence in the chronically recurring pneumothorax patient.

Secondary or Chronic Pneumothorax

The following group of patients are considered as chronic pneumothorax offenders and treatment should consist of surgical resection of the offending air blebs, apical pleurectomy and expansion of the lung in this fashion to prevent further attacks. The following list comprises the indications for surgery in pneumothorax patients.

- 1. Occurrence of two or more episodes of spontaneous pneumothorax.
- 2. Occurrence of one or more episodes of pneumothorax with x-ray evidence of large intrapulmonary blebs or vesicles.
- 3. Occurrence of one or more episodes of bilateral spontaneous pneumothorax.
- 4. Occurrence of one or more episodes of spontaneous pneumothorax with associated hemothorax.

5. Occurrence of one episode of spontaneous pneumothorax with failure of expansion following prolonged intercostal catheter drainage (ten or more days). The latter is called a "persistent air leak".

Hospitalization averages seven to ten days, and with the lung expanded it will quickly adhere to the raw surface of the apical thorax thereby preventing further collapse. "Closed" procedures of the past used to form scar tissue between the lung and apex of the chest are contraindicated. A variety of chemical agents have been used consisting of talc, tuberculin, killed bacteria, peptone, india, ether, formaldehyde, turpine, et cetera. These agents were administered

through a thoracoscope at which time lysis of the apical adhesions was also performed. Failure to adequately re-expand the lung or maintain expansion usually occurred for several reasons:

- 1. Inadequate expansion of the lung following thoracoscopy prevented visceral and parietal contact and thus lack of symphysis.
- 2. Adhesions, when formed, were inadequate and stringy, and often fixation occurred at the least desirable area over the mediastinum and diaphragm.

The chronic pneumothorax patient can be simply and safely treated by means of apical pleurectomy and wedge resection of the offending bleb. The parietal pleural is removed from inside the chest at the apex without significant bleeding and without adding to the morbidity of the operation. Post-operatively the chest catheter is left in position for four to six days to assure proper adhesion formation. Attention is directed to complete expansion of the lung during this period by multiple endotracheal aspirations when necessary, broad-spectrum antibiotics, et cetera.

The accompanying tables indicating the loss of time and the possibility of unfortunate complications attributed to inadequate or delayed treatment of the chronic pneumothorax patient bids strong for early surgical intervention:

TABLE 1

PRIMARY PNEUMOTHORAX—(FIRST COLLAPSE—20%)	
Total number	37
Collapse—50%	25
Expansion of lung with intercostal catheter	34
Inadequate expansion with intercostal catheter	3
Average length of hospital stay	4 days
Recurrence of pneumothorax within six weeks	2
Recurrence of pneumothorax within six months	11
Recurrence of pneumothorax after six months	9
Total number of recurrences	22
Percentage of recurrences	50 to 60%

TABLE 2

SECONDARY OR CHRONIC PNEUMOTHORAX

Total Number	36
Hemothorax associated with pneumothorax	4
Simple second episode of pneumothorax	17
Persistent air leak with poor expansion during first attack	3
More than two previous episodes of pneumothorax	7
Bilateral pneumothorax large, dominant pulmonary blebs with pneumothorax	4

TABLE 3

SURGICAL PROCEDURES FOR CHRONIC PNEUMOTHORAX

Wedge resection of blebs in apical-posterior segment and parietal pleurectomy	32
Decortication with wedge resection of apical blebs	1
Segmental resection of apical and posterior segment	3
Number of recurrence after above procedures	0

Conclusion

The subjects of simple spontaneous and chronic pneumothorax are discussed. Indications for exploratory thoracotomy are given and are based primarily on the important point that usually a large vesicle or series of subpleural blebs must be excised as the underlying offender in order to prevent multiple occurrences of collapse. Pleurectomy is occasionally indicated where no dis-

crete area of pulmonary cystic change can be found. Poudrage procedures are always contraindicated and have no place in the present-day handling of spontaneous pneumothorax.

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Hepatositis of Pregnancy

A Syndrome of Pruritus and Icterus Occurring in Late Pregnancy

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Roanoke, Virginia

When icterus and pruritus occur in late pregnancy this relatively rare syndrome must be considered. The fact that it is benign and requires no treatment makes its recognition important.

EARLY IN THE TWENTIETH CENTURY a few sporadic cases of a relatively rare syndrome, characterized by itching and jaundice in late pregnancy, appeared in the foreign literature under the title of "Idiopathic Jaundice of Pregnancy". It was not until 1954 when Svanborg¹ of Sweden reported seven cases that much descriptive knowledge of the syndrome was available. Because four of his cases had had jaundice during previous pregnancies he used the term "Recurrent Jaundice of Pregnancy". In 1955 Thorling,² also of Scandinavia, described 38 cases and called the syndrome "Hepatotoxemia of Pregnancy" and since the symptoms appeared during the latter part of pregnancy, "Jaundice of Late Pregnancy". In 1959 Svanborg and Ohlsson³ presented a clinical study of 22 cases and described the non-inflammatory cholestatic lesion found on liver biopsy. This latter observation led Sheehan⁴ to coin the term "Hepatositis of Pregnancy" in his article reviewing the causes of jaundice in pregnancy. He also noted that the syndrome did exist outside of the Scandinavian countries and gave credit to a case presented by the Englishman

Dowie, and described four cases of his own.

Then followed a report of one case by VanWoert and Kirsner⁵ from the University of Chicago in 1961. In 1962 McAllister and Waddell⁶ of Calgary, Alberta, reported a primiparous case, followed in May 1963 by Brown, et al⁷ of the Albany Medical College, who reported three extensively studied cases, thus adding much to the biochemical and histopathological understanding of the syndrome. In July 1963, Moore⁸ described three cases from Dublin. Erie and Simmons⁹ one case from London, England.

It is the purpose of this paper to describe another case of Hepatositis of Pregnancy and discuss the syndrome in some detail. This presentation makes the fifth such case reported in the United States and in addition note will be taken of the occurrence of this syndrome in the patient's *identical twin sister*.

The case presented is that of a 21-year-old white female who was first seen during her 8th month of pregnancy because of generalized icterus. Her chief complaint was that of intense generalized itching which she stated began between the 5th and 6th month of pregnancy and gradually became worse. About two to three weeks after the onset of the itching she began to note a darkening of her urine and then her skin gradually became icteric. In spite of this she remained afebrile and aside from slight nausea and anorexia she was asymptomatic except for her itching. The only medicine intake during the pregnancy had been the usual vitamins and iron. Her obstetrician noted her icterus on the day prior to admission to the hospital on 4-2-62.

The patient's past history is very inter-

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esting. She was a gravida 2, para 1 at the time of hospitalization. During her first pregnancy in 1957 she had noted the onset of itching during her 5th month of pregnancy. She was treated by her obstetrician and a dermatologist and at that time they apparently did not note any icterus. A check of the hospital records of this 1957 delivery failed to indicate any observation of jaundice. However, her husband stated that he was quite concerned about her "yellow eyes and skin" during this time. With the delivery of a normal non-icteric child the "itching was greatly relieved immediately after delivery, but was sporadic for about two weeks, when it disappeared entirely" and the "yellow skin and eyes and darkened urine

between the 5th and 6th month of pregnancy which became more intense until delivery, when it abated within 24 hours after the term delivery of a perfectly normal child. She and her husband also were apparently the only ones to note her dark urine and yellowish tint of her skin and conjunctivae, during the latter part of her pregnancy. She says that the jaundice went away about five days after delivery. A second, non-twin sister has had two pregnancies without such symptoms. An attempt to trace the patient's lineage from Scandinavian origin was not successful.

On physical examination an obviously icteric white female with deep scratch marks over her entire body was noted. Otherwise

LABORATORY TEST TABLE

	RBC	HGB (gms)	WBC	DIFF.		I. I. (Unit)	VANDEN BERGH		Alk. Phos.	SGOT (Unit)	Proth. Time. (Secs.)	Ceph. Flocc.	Bld. Type	Urine
				Segs	Lum		Dir.	Ind.						
4-7-62	3.90	11.5	12,500	80	20	47	5.35	7.55	12BU	66	43 sec. (C: 15)	3 + 48 hrs.	A Rh +	Dark Bile.
4-9-62						51					16 sec. (C: 15)			(Stool: Clay Colored)
5-15-62 1st day Post- Partum	Hct. 39 Vol. %	13.5	16,100	79	21	40	4.32	0.33			25 Secs. (C: 14)			Green Bile. Alb. 1 +
6-25-62 41 days Post- Partum		14.0							4BU	8	15 Secs. (C: 15) 100%			Clear Neg. Bile & Urobil.
1-22-63 8 months Post- Partum.		15.0	8,100	76	24	4	0.30	0.60			100% Act.	2+ 48 hrs.		Clear Neg. Bile & Urobil.

disappeared in about one week." The remainder of the past history was essentially normal.

The family history is another thing that makes this case of interest. Although a search among her parents' families failed to reveal any occurrence of a similar episode during pregnancy, the patient's identical twin sister was found to have experienced such a syndrome during her first, and so far, only pregnancy. The sister had an onset of itching

she appeared well developed, well nourished, and the routine temperature, pulse and blood pressure were normal and remained so during the remainder of the pregnancy. The abdomen was protuberant with an 8th month pregnancy uterus, but was non-tender and the liver and spleen were not palpable or tender. The remainder of the exam was normal.

The laboratory examinations were significant in that they indicated an obstruc-

tive jaundice and a mild hypochromic anemia. (see Lab. Table). Other tests done, but normal, were blood urea and sugar, thymol turbidity, heterophile antibody, coombs test, Rh titre, cold agglutinins, RBC fragility, fibrinogen, bleeding and clotting times, Lupus Erythematosus test, Total Protein and A/G ratio. An x-ray (flat plate) of the RUQ failed to indicate any hepatic enlargement or cholelithiasis.

The prothrombin time was 43 seconds (control 15 seconds) on admission. After 15 mgm of oral Vitamin K-1 this returned to normal within less than 48 hours. (See Lab. Table).

The patient did well in the hospital except for her persistent itching and icterus. Treatment consisted chiefly of rest, sedation, Tamaril and lotions in an abortive attempt to control the pruritus. Although she had been admitted to hospital isolation, this was removed after 48 hours when it became fairly obvious that she did not have infectious hepatitis. And since the symptomatology did not seem to indicate an acute ailment, she was discharged home with the diagnosis of probable hepatosis of pregnancy.

Between the discharge date of 4-12-62 and 5-13-62, when she was readmitted for delivery, her condition remained essentially static. Attempts to control her itching were to no avail, but her prothrombin time remained normal without further Vitamin K-1 therapy. On 5-14-62 she was delivered of a non-icteric, normal male child bathing in a markedly icteric amniotic fluid. On this date her itching ceased. On the first day post-partum the laboratory exams were essentially the same as the month previously, except the indirect van den Bergh had dropped from 7.55 to 0.33. The prothrombin time was 25 seconds (control 14 seconds), and although she manifested no unusual bleeding she was again treated with Vitamin K-1. (see Lab. Table).

During the following three weeks her icterus gradually abated and on examination four weeks post-partum she was found to be clinically non-icteric with the urine free

of bile and urobilinogen. Eight months post-partum she was still clinically well and the hepatic tests were normal.

Discussion

Hepatosi of pregnancy, as indicated, is a syndrome characterized by the clinical picture of pruritus and icterus occurring in late pregnancy. The itching is generally noted about the 5th or 6th months of pregnancy and increases in intensity over a period of a few weeks until it reaches a peak of severity which is maintained until delivery. It is the first and remains the chief symptom, with icterus beginning about a week or two later. However, the jaundice is often sub-clinical and aside from some darkening of the urine may escape detection.¹⁰ This, in essence, was the experience in this patient's and her twin sister's primiparous pregnancies. When the jaundice does manifest to an overt degree, the patient presents the picture of an obstructive icterus, which reaches a peak level very quickly and maintains itself until the termination of the pregnancy. After the delivery of a normal and non-icteric child the itching will cease immediately or subside over a few day to a week. That there is variation to this is shown by the study of twenty cases by Svanborg and Ohlsson.³ They found that the itching was the first symptom in 17 of the 22 cases, and as a rule it persisted about a week longer than the jaundice after delivery. They found that the icterus generally clears within seven to 14 days post-partum. However, in the case presented, icterus cleared about three weeks after her second delivery and within one week after her first pregnancy. In contrast her itching was sporadic for two weeks after the first pregnancy and ceased immediately after the second. This would seem to indicate an inverse ratio between the icterus and the itching, and in some way depend on the number of recurrences of the syndrome. However, Svanborg and Ohlsson³ stated that all their cases were clear of jaundice in two

weeks and, as stated above, the itching persisted for a longer time; and their series included four patients with recurrence in two or more pregnancies.

That this syndrome is recurrent in subsequent pregnancies has been established.^{3,4} That it may not occur until a multiparous pregnancy has also been established.³ However, in general, if it occurs in one pregnancy, it will recur in subsequent pregnancies.

No fever, pain or other acute symptoms generally attend this syndrome, but one should be cognizant of the fact that complicating infections may obscure the picture.

The biochemical changes of hepatitis are those of obstructive jaundice without evidence of hepatic inflammation or destruction. The finding of the elevated SGOT, even though slight, and the marked elevation of the prothrombin time would appear to belie this; but the rapid return to normal of prothrombin activity after a relatively small dose of oral Vitamin K-1 indicates the normal hepatic cell response. This response is helpful in diagnosing this syndrome. Another interesting aspect of this is that in this case presented and those reported in literature with this decreased prothrombin activity, no abnormal bleeding was noted, even in the deep scratch marks or at delivery. When pregnancy is terminated the biochemical findings return to normal, as well as the histopathology seen in liver biopsy studies.^{3,5,7}

The histopathological lesion found on liver biopsy is similar to that described in hepato-cellular reaction to various drugs, e.g., chlorpromazine and methyltestosterone. Descriptively this lesion is dilatation of the bile canaliculi associated with the presence of bile thrombi, without evidence of hepatitis or cellular destruction. It has been suggested that some cases of hepatitis of late pregnancy have been missed due to the use of cholestatic drugs during early pregnancy or even the primary symptom of itching, with the misapplication of causative factors.

The recognition of this syndrome would appear to be of importance for at least four

reasons. One, to prevent unnecessary early vaginal or caesarian delivery, with all the potential morbidity and mortality that attends such procedures, which has been advocated by various authors for jaundice of pregnancy in general. Two, to prevent unnecessary laparotomy, which has occurred in some of the reported cases.⁸ Three, to prevent unnecessary advice or sterilization against further pregnancies, since it has been shown that recurrence in subsequent pregnancies does not cause chronic hepatic damage. Four, to prevent unnecessary isolation and other measures carried out for treatment and control of infectious hepatitis.

The etiology of this syndrome is not known. It has been variously suggested that it represents an exaggeration of the normal physiological hepatic change of pregnancy,³ biochemical and steroid effects,^{7,10} familial and inborn metabolic-enzymatic defects. The occurrence of this syndrome in the identical twin sister of this patient would at least hint at an inborn defect in hepatic metabolism.

In summary, a case of a relatively rare recurring and benign cause of pruritus and icterus of pregnancy has been presented, along with an historical and clinical account of the syndrome.

This case, and that of her twin sister, make a total of six such cases reported in the United States, and a total of 16 cases reported outside of the Scandinavian countries. The majority of cases described appear to be from Sweden, but an awareness of the disorder seems to have increased the number of reports from other parts of the world in the past two years.

The recognition of this syndrome is more important than just adding another case of literature. As discussed previously, unnecessary surgery and early termination of pregnancy, among other things, can be prevented.

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Bright Future in Mental Disease Prevention

The keys to the rapid progress we are making in the management of emotional disturbances are the new drugs and the treatment techniques which are at our disposal. We are now measure treatment in terms of days, weeks, or months instead of years and decades. These medical advances also mean that the psychiatrist no longer stands alone—all physicians, regardless of specialty, have tools and knowledge enough to diagnose and manage many forms of mental illness. Nor have we yet really touched prevention's great potential.—Millard B. Bethel, M.D., in *Hawaii Medical Journal*, January-February 1964.

The Difficult Birth of a New Drug

Before enactment of the Drug Amendments of 1962, five to six years were required on the average to place a truly new drug on the market. Now, if the current law and regulations stand, or if there are lacking the right interpretation and regulatory practice, it may well take a decade or longer. The real impact of the 1962 amendments, then, may be felt in the forthcoming decade, not this year or next. Thus, the tempo of discovery and development of new drugs could be set back for years. Other products, too, could be delayed until the log jam breaks. There are some who have expressed the hope that no one dies or suffers unnecessarily during this period for lack of a drug that is not there but could have been if the channels of discovery and distribution were not riddled with hindering laws, regulations, or misunderstanding.—Austin Smith, M.D., President, Pharmaceutical Manufacturers Association, in *Southern Medical Bulletin*, December 1963.

Treatment of Bacterial Endocarditis with Methicillin

Case Report and Review of Literature

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Serious infections due to strains of staphylococci, which are resistant to penicillin G, can be cured in most cases with methicillin.

THE PURPOSE of this paper is to present a case of bacterial endocarditis due to staphylococcus aureus, coagulase positive, which was successfully cured with methicillin.

Some of the recent literature concerning treatment of staphylococcal infections with methicillin will also be discussed.

Case Report

First Admission:

Mr. H. W., a fifty-one year old white male, was first admitted to Petersburg General Hospital on May 29, 1961, with fever of unknown origin of one-week duration in spite of penicillin G therapy for what was felt to be a respiratory infection. He had a past history of rheumatoid arthritis of ten years duration and he had been treated with steroids for three years.

On admission, temperature was 103.8 degrees, weight was 175 pounds, blood pressure was 110/70. Heart and lungs were normal. There was some left costovertebral angle tenderness. Typical rheumatoid joint changes were present in the hands, knees, and ankles. Laboratory findings were as follows: hemoglobin, 12.1 grams percent; WBC, 8,800 per cu. mm. with normal dif-

ferential; urine specific gravity, 1.017; three plus albumin; sugar, negative; eight to ten WBC; no red blood cells; many coarse granular casts; urine culture, negative; blood urea nitrogen, 18; blood sugar, 145; total protein, 6.5 grams percent; 3.5 grams albumin; and 3.0 grams globulin.

Two days after admission the patient developed pleural friction rubs bilaterally and a chest x-ray showed bilateral pulmonary infiltration. Two blood cultures grew out a coagulase positive staphylococcus aureus, resistant to penicillin. Treatment was begun with one million units of penicillin intramuscularly every four hours, Vancomycin one gram intravenously every four hours, and streptomycin one gram intramuscularly every twelve hours. He was very ill and required oxygen therapy for one week. However, improvement was steady and he was afebrile within six days. Vancomycin was stopped eight days after admission because of pains in his arms. The other antibiotics were continued for another four days. At the time of discharge on June 24, 1961, chest x-ray showed residual scarring in both lung fields. An intravenous pyelogram was normal.

Second Admission:

Three days after discharge, the patient had a chill and his fever rose to 104 degrees. Blood cultures from both arms grew out staphylococcus aureus, resistant to penicillin G but sensitive to novobiocin and erythromycin. Routine blood counts were normal. Urinalysis showed four plus albumin and eight to ten WBC. Blood urea nitrogen was 17. Chest x-ray was unchanged. For the

first time a Grade I-II systolic heart murmur was heard at the base with radiation to the aortic area. Electrocardiogram was normal. Treatment with Ilosone, penicillin, Tao, and streptomycin was instituted. Temperature was normal in twenty-four hours and three repeat blood cultures were negative. Consultation was obtained and it was agreed that the patient most likely had bacterial endocarditis. He was discharged after two weeks on Ilosone and Tao, 500 mgm each every six hours. Tao was stopped soon after because of a skin rash but at this time methicillin was begun in a dose of one gram intramuscularly every six hours. The patient's wife administered these injections, but they were stopped after three weeks because of muscle soreness at the sites of injection.

Third Admission:

On August 23, 1961, about two weeks after stopping all medications, the patient was readmitted to Petersburg General Hospital with chills and a temperature of 104 degrees. The systolic murmur was felt to be harsher and Grade III in intensity but there was no diastolic component. Blood pressure was 110/50. Physical examination was unchanged. Urinalysis showed many RBC, many WBC, and four plus albumin. Urine culture was negative but blood cultures again grew out a resistant staphylococcus aureus. He developed a paralytic ileus and the blood urea nitrogen rose to 98. It was felt that the patient had sustained embolization to the kidneys and possibly to the mesenteric circulation. The patient was treated with methicillin one gram every six hours intramuscularly and erythromycin 500 mgm every six hours by mouth. Fever abated and abdominal findings subsided. Blood urea nitrogen was normal by September 20, 1961. Because of pain in the buttocks, methicillin was given in the thighs and also through an indwelling intravenous catheter intermittently when the thighs became sore. Methicillin and erythromycin were continued until discharge on October

25, 1961. The heart murmur varied in intensity from time to time but was classified as Grade I-II at discharge. Laboratory findings were normal at this time. Chest x-ray continued to show the residual scarring. Another intravenous pyelogram was normal. The patient was feeling well at the time of discharge except for some edema of the legs which was felt to be due to local stasis and arthritis. The patient has been followed for two years now and is working full time. He continues to take maintenance doses of steroid.

Discussion

2,6 dimethoxyphenyl penicillin (methicillin) was synthesized in England in early 1960 and has received fairly extensive laboratory and clinical experience.¹ It is distinguished from other penicillins by its nearly complete resistance to destruction by penicillinase. Probably because of this property, it appears to be clinically effective against strains of staphylococci having some degree of in vitro resistance to penicillin G. Although the spectrum of methicillin is similar to that of penicillin G, the drug is less active than penicillin G against organisms sensitive to the latter. As with penicillin G, methicillin is bactericidal only against cells which are dividing. In contrast to penicillin G, it is almost as active in vitro against large inocula of staphylococcus as against smaller ones.

Methicillin must be administered by the intramuscular or intravenous route because of its poor absorption from the gastrointestinal tract due to its destruction by acid. Methicillin will cross the blood brain barrier into the spinal fluid in only minute amounts unless there is inflammation of the meninges present. After intramuscular injection, peak serum levels occur in fifteen to thirty minutes with a half life of approximately two hours. After intravenous administration, peak serum concentration occurs within five minutes with a half life of about one hour. There is rapid excretion of methicillin in the urine. However, probenecid in doses of one

to two grams daily will block this excretion and enhance the level and duration of the drug in the serum. In general, a dosage of one to two grams of methicillin intramuscularly or intravenously every four to six hours would seem to be adequate treatment for most infections, the larger dose being used for severe infections or for the first few days of treatment. When given intravenously, the drug should be diluted in 10 to 20 cc of normal saline and injected over a period of five minutes. The drug should not be placed in large infusions unless the infusion is buffered with soda bicarbonate to a pH of about 7.4 since it will deteriorate in an acid solution.

In general, side reactions to methicillin have been similar to those with penicillin G. Urticaria, other skin rashes, eosinophilia, hemolytic anemia, and serum sickness have been noted in occasional patients.

Allen² noted a peculiar syndrome resembling glomerulonephritis in two patients while taking the drug. This occurred during the first two weeks of treatment while on doses of six to eight grams daily. However, azotemia and urinary findings returned to normal although the drug was continued. It was felt by the author that the renal picture was most likely due to staphylococcal toxins rather than to methicillin. The patient presented in our report experienced albuminuria, pyuria, hematuria, and elevated blood urea nitrogen during the early stage of his second course of treatment with methicillin. We felt that embolism to the kidneys was responsible for these findings.

Several authors¹ have reported the occasional absence of allergic reaction to methicillin by patients who were known to be sensitive to penicillin G. However, it is not recommended that one administer methicillin to patients who have had previous sensitivity reactions to penicillin G unless the gravity of the illness requires it. In such situations, concurrent administration of adrenal steroids and/or antihistamine drugs might prevent or minimize untoward reactions.

Clinical Experience

Douthwaite³ et al. treated forty-six patients with resistant staphylococcal infections with methicillin. Excellent results were obtained including cures in three out of four cases of endocarditis. The fourth case had a relapse and died after an initial beneficial response to treatment.

Allen² et al. reported twenty-two cases of staphylococcal septicemia treated with methicillin. Cures were obtained in sixteen and only one patient was classified as a strict failure. Included in the series was one case of endocarditis which was cured.

Rifkind¹ and Knight reported the cure of two patients with bacterial endocarditis due to alpha streptococcus and staphylococcus albus.

Hewitt¹ et al. reported on their experience with forty-five infections including three cases of endocarditis. Two of these cases were due to streptococcus viridans and one to resistant staphylococcus. All were cured.

Yow and Nassar¹ obtained bacterial cures in five cases of endocarditis, three of which were due to staphylococcus. However, one of the latter died of a ball valve thrombus.

Smith and Counts¹ obtained cures in ten of fourteen patients with resistant staphylococcal infections. They reported cures in three cases of endocarditis, due to staphylococcus albus, alpha streptococcus, and one of undetermined origin.

Sabath⁴ et al. described clinical experiences in one hundred and forty-six cases of severe staphylococcal disease. Three cases of endocarditis were treated and all died. They reported an overall mortality of fifty-four percent in fifty-seven cases of bacteremia.

Summary

A case of bacterial endocarditis due to resistant staphylococcus aureus is presented. The patient was cured by prolonged treatment with methicillin and is living two years later.

Some of the literature concerning laboratory and clinical experiences with methicil-

lin is reviewed. Included in these experiences are reports of fourteen other cases of staphylococcal endocarditis with cures in nine. Of the five who died, bacteriologic cure was obtained in one.

It would appear that at the present time, methicillin is the best drug available for the treatment of serious infections due to strains of staphylococci which are resistant to penicillin G.

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New Drug Compared with Morphine

A new drug, believed to be nonaddicting, that approaches the pain-relieving ability of morphine, has been developed, Harvard University researchers reported in the April 13th *Journal of the American Medical Association*.

Pentazocine, classified as a morphine antagonist because it reverses the effect of morphine and similar-acting drugs in man, was described by Drs. Leo J. Cass, Willem S. Frederik and Jose V. Teodoro, Boston.

The drug was tested in a double-blind study among 16 patients, 15 men and 1 woman ranging in age from 41 to 72, with chronic moderate to severe pain. The patients received injections of pentazocine in two different amounts, morphine sulfate, or an innocuous substance at different times over a three-day period.

"Pentazocine in 40 mg [milligram] dosage approaches though is not equal to the analgesic effectiveness of morphine sulfate 20 mg. It produces basically the same side

effects [nausea, vomiting, excitement, drowsiness, dizziness] as morphine, but more severe and more frequent drowsiness.

"Pentazocine in 20 mg dosage produces considerably fewer side effects than either morphine or pentazocine 40 mg, but still maintains a fairly high level of pain relief over a period of at least two hours."

So far, pentazocine has not been found to produce or support tolerance or dependence.

The earlier discovery that nalorpine hydrochloride, another morphine antagonist, had pain relieving properties opened up new possibilities in the field of analgesics.

Studies with nalorphine showed that potent pain relief could be separated from dependency and a pain reliever of the morphine level of effectiveness without addictive properties could be developed. However, nalorphine had to be abandoned because of the severe side effects it caused. Work with other morphine antagonists followed.

Correction of Ventricular Fibrillation on the Medical Wards

A Report of Five Cases

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Patients with ventricular fibrillation can be saved from sudden death by experienced operators and appropriate equipment.

VENTRICULAR FIBRILLATION is the most common cause of sudden death in patients having coronary heart disease, particularly amongst those convalescing from an acute myocardial infarction. However, since the arrhythmia is not a reflection of the extent of damage to the heart, and, indeed there may be no tissue destruction at all,¹ it should be possible to restore many of these victims to active lives.

The four main parts of treatment of ventricular fibrillation are: (1) The restoration of circulation by massage of the heart; (2) Ventilation of the blood in the lungs by artificial respiration; (3) Defibrillation of the heart using counter shock, and (4) support of circulation and breathing immediately after defibrillation.

None of these steps is difficult to carry out under ideal conditions, but when ventricular fibrillation has occurred without warning, as is usually the case, a substantial part of the vital three minute time limit

before irreversible brain damage quite likely has already elapsed before the arrival of the physician. Under these alarming circumstances, success will depend on the effort that has gone into preparation, particularly rehearsal with the medical and nursing staff, even to the application of the methods of resuscitation in obviously hopeless cases.

Effective cardiac massage depends upon compression of the heart between the sternum and spine by pressure on the lower end of the sternum. The amount of effort required varies with the size of the patient as well as the anterior-posterior diameter of the chest. In the average adult male, the aim should be to depress the sternum three or four centimeters. The procedure can be learned quickly by those having little or no medical experience. Fractures of ribs of older patients may occur in spite of cautious manipulation. Injury to the liver becomes a danger when massage is applied roughly.^{2,3,4}

More effective massage can be achieved by having the patient on a hard surface. However, we would strongly advise against placing the patient on the floor, which would magnify the problems of the operator, having to work on his knees in a clutter of equipment, wires and tubing. Support of the chest can be obtained by placing a meal serving tray or similar object between the patients chest and the mattress.

Certainly the most important and least dramatic part of treatment is good ventilation of the lungs. Without it, massage and

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countershock are likely to be valueless. A common cause of failure to oxygenate the lungs is faulty position of the patient's head. The neck must be pushed into hyperextension and the jaw held forward. This forces the pharynx open and prevents trapping of air by the base of the tongue.⁵ Mouth to mouth breathing then should be satisfactory. A suction apparatus should be immediately available since vomiting and aspiration are common complications.

Use of an endotracheal tube would be ideal, for it would enhance oxygenation and prevent disastrous aspiration of stomach contents. However, valuable time may be lost and irreversible damage done during inept attempts to introduce the tube. Unless the technique has been mastered it would be safer to continue with mouth to mouth breathing or the use of oxygen with mask and bag.

An electrocardiogram is necessary both for the diagnosis of ventricular fibrillation and to determine the effectiveness of treatment.

To reduce the danger of accidents during the countershock, one operator should maintain complete control of the defibrillator. A deep burn occurred in one of our patients when an assistant triggered the countershock as the electrode was being removed from the chest. Burns may also result from the electrode paste being smeared between the points of application of the electrodes or if the electrodes are placed too close together. One electrode is placed over the upper sternum and the other at the cardiac apex.

Instruments for delivering countershock have been devised so that they can be easily understood and used. If countershock fails it should be repeated using greater voltage or two or three shocks may be given in series. If the condition of the patient remains good but external shock has failed, it has been suggested that a thoracotomy be done and internal defibrillation attempted by applying the shock directly to the myocardium using the appropriate electrodes and stimulation.

If Pronestyl or Quinidine have been given, defibrillation of the heart may be followed by prolonged asystole. This may respond to pounding sharply over the precordium or it may be necessary to resume cardiac massage and use an external electrical pacemaker. During the period immediately after defibrillation and return to orderly contractions, both the cardiac output and the respirations may be feeble, requiring further support with artificial respiration and cardiac massage.

We have been able to restore effective sinus rhythm in five patients on the medical wards. In none was there evidence of residual central nervous system damage. One patient died two days after defibrillation of congestive heart failure. Two lived for eight and ten months after leaving the hospital and two are still living after periods of one year and nine months. Four of these patients had severe coronary heart disease. One was in diabetic coma. Of those who recovered, three had been fibrillating for at least thirty minutes.

Case Reports

Case 1: A 43-year-old man was admitted with an acute myocardial infarction. While talking with one of us he suddenly lost consciousness and cardiac massage was begun immediately. The electrocardiogram demonstrated ventricular fibrillation. At first, respirations continued, but after four or five minutes an endotracheal tube was inserted. Lacking an external defibrillator, he was taken to the operating room and an internal defibrillator was used successfully after a total of about forty-eight minutes. He seemed to be making a satisfactory recovery except for diminished urinary output, but died two days later in acute pulmonary edema.

Case 2: A 56-year-old woman had had two myocardial infarctions followed by angina pectoris. She was hospitalized because of ventricular tachycardia which recurred several times, responding well to procaine amide. While her heart action was

being monitored with an electrocardiogram she was seen by one of us to develop ventricular tachycardia followed by ventricular fibrillation and convulsion. Massage was begun immediately and an endotracheal tube inserted within a few minutes. The arrhythmia was abolished about eleven minutes after its onset by external shock. Subsequent to discharge she was severely disabled by angina pectoris and failure and died suddenly at home ten months after leaving the hospital.

Case 3: A 67-year-old woman entered with an acute myocardial infarction from which her recovery was poor and on the twenty-seventh hospital day there was a recurrence of severe chest pain followed by ventricular fibrillation. Cardiac massage was started within thirty seconds and an endotracheal tube was also used. Four externally applied countershocks were unsuccessful and she was given procaine amide 500 mg intravenously and sinus rhythm was restored after the application of two countershocks, given in rapid succession. She had been fibrillating for thirty-eight minutes. Cardiac arrest occurred an hour later but responded to an external pacemaker. She expired suddenly at home eight months after she was discharged.

Case 4: A 43-year-old man entered because of chest and arm pains, suspicious of angina, but without clear evidence of a myocardial infarction. On the day after admission he complained of chest pain and abruptly lost consciousness. Cardiac massage and mouth to mouth breathing were begun after about one minute. He was found to have ventricular fibrillation which continued forty-five minutes before being abolished by external countershock. Recovery was excellent and he has been working for the past year without cardiac decompensation or angina pectoris.

Case 5: A 32-year-old woman developed ventricular fibrillation while being treated for profound diabetic coma. The arrhythmia occurred while an electrocardiogram was being done. Within seconds cardiac

massage was begun and respirations continued, assisted first by mouth to mouth breathing, later by oxygen with bag and mask. Defibrillation was accomplished within ten minutes by external countershock. Subsequent electrocardiograms showed no evidence of myocardial damage.

We were able to terminate ventricular fibrillation in four other patients, none of whom lived. All had severe heart damage. One had been given procaine amide intravenously and after defibrillation had refractory asystole. In the other three, there was regular electrical activity on the electrocardiogram, but no heart sounds or other evidence of cardiac contraction could be detected.

The value of drugs is difficult to estimate and it seems that none can be given without hazard. Procaine amide is helpful in preventing ventricular fibrillation and may assist countershock in abolishing it. However, the danger of asystole following its use greatly limits its value. Epinephrine may overcome asystole but is prone to precipitate fibrillation and the same applies to the Vaso-pressor drugs generally. Cardiac asystole may also respond well to the intracardiac injection of 5 or 10 cc of 10% calcium chloride. This, too, may cause hyperirritability of the heart.

It is often difficult to know when efforts at resuscitation should be abandoned. Guidance in this soul-searching problem may be obtained by such factors as knowing approximately how long circulatory arrest had been present before massage was begun, by an understanding of the amount of heart damage that was preexisting and by evaluating the skill with which massage and ventilation have been carried out. The general responsiveness of the patient and the degree of pupillary dilatation also may be helpful.

Summary

Ventricular fibrillation often occurs in patients as a form of reversible heart disease. Rarely will the patient escape immediate

death unless effective treatment is started within three or four minutes. In preparation for this crisis, experience in cardiac massage and the more difficult techniques of artificial respiration should be sought whenever possible.

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Epilepsy Not Related to Criminal Behavior

An epileptic is no more a potential murderer than the so-called normal individual, Dr. Samuel Livingston, Baltimore, said in an editorial in the April 13th Journal of the American Medical Association.

The impression that epilepsy was related to murder and crimes of passion which might have been gained from the Jack Ruby trial also was refuted in a letter signed by five expert witnesses published in the Journal.

"To my knowledge, there are no reports in the current medical literature which prove that there is a higher rate of criminal action among epileptics than among other individuals," Dr. Livingston said. "Based on my 27 years of specializing in the treatment, study, and contact with the course of living of some 15,000 epileptic patients on every social level, I can state positively that the instance of crimes committed by these patients was no greater than—even showed no difference from—that in a similar number of nonepileptics."

Dr. Livingston pointed out that about 1 in 100 persons suffer epilepsy, more than the number of persons with diabetes or tuberculosis. The epileptic, like the person with

tuberculosis or poliomyelitis, has a better chance than ever before of recovering and living normally, with good medical care and understanding from his associates.

Dr. Livingston also expressed regret that the association of epilepsy with Ruby would set back public acceptance of epilepsy as a physical, not a mental, disability, and as a physical handicap, not a social disgrace.

The letter signed by Francis M. Forster, M.D., Madison, Wis., Peter Kellaway, Ph.D., Houston, Roland P. Mackay, M.D., Chicago, Robert S. Schwab, M.D., Boston, and A. Earl Walker, M.D., Baltimore, said:

"We submit the following statements to the many physicians responsible for the health and peace of mind of nearly one million patients with various types of epileptic seizures:

"Neither the clinical history nor the electroencephalogram of Mr. Ruby indicated any definite evidence of epilepsy.

"Epileptic seizures are never associated with complicated and planned criminal acts of violence.

"Epileptics are as safe to be with as any group of people except in extremely rare and usually predictable situations."

Principles Underlying Interdisciplinary Relations between the Professions of Psychiatry and Psychology

A Position Statement by the Council of the American Psychiatric Association*

BASIC POSITIONS OF THE AMERICAN MEDICAL ASSOCIATION AND THE AMERICAN PSYCHIATRIC ASSOCIATION

The basic position of the American Psychiatric Association relative to psychologist is in agreement with the Report adopted by the House of Delegates of the American Medical Association on June 16, 1960.** Pertinent excerpts from that Report are quoted as follows:

1. . . . "The impact of rapid scientific advances requiring that more people participate in the care of patients has created new sociologic, economic, educational and legal problems . . ."

2. . . . "An objective evaluation of the medical profession's present relations with other health professions has convinced the committee that physicians must initiate and develop more effective interprofessional re-

Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

*This statement and recommendations were formulated by the Committee on Relations with Psychology of the American Psychiatric Association: Joel S. Handler, M.D., Chairman; Nyla J. Cole, M.D.; Thomas H. Holmes, M.D.; Donald F. Moore, M.D.; Robert L. Stubblefield, M.D.; John A. Whieldon, M.D.; and John C. Whitehorn, M.D. The Committee expresses its thanks to the following former members who assisted in its formulation: John Briggs, M.D.; F. C. Redlich, M.D.; and William B. Terhune, M.D. The statement was reviewed by the full Council of the Association meeting December 14-15, 1963. It was approved by the Policy Committee of the Assembly of District Branches meeting February 7, 1964. It was approved as an official policy statement by the Executive Committee of Council on February 8, 1964.

**See FINAL REPORT OF THE COMMITTEE TO STUDY THE RELATIONSHIPS OF MEDICINE WITH ALLIED HEALTH PROFESSIONS AND SERVICES TO THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION (The McKeown Report), American Medical Association, Chicago 1960.

lationships . . . If the medical profession avoids cooperative efforts; if it refuses to exchange viewpoints with other health professions, the issues may well be placed before the public for its decision. Such a breakdown in continued discussions would result in public decisions that may not be based on professional judgments.

3. . . . "To place the most critical aspect of the problem under specific discussion in its proper perspective, namely the professional need for cooperatively defining and respecting the areas of activity and responsibility for scientists who participate in the care of the patient, it must be fully realized that physicians have the ultimate responsibility for patient care, and that they, and they alone, are trained to assume this responsibility. In the public interest, other scientists, when contributing to this patient care, must recognize and respect this ultimate responsibility. Moreover, not only must there be mutual respect for different abilities and special qualifications, but also concomitant recognition of the interdependence of scientists and physicians in promoting health . . .

4. . . . The Report stated with regard to regulatory mechanisms such as certification, licensure, or registration, that "inherent in any regulatory process must be:

a. "A clear definition of the activity to be regulated and the necessity for its regulation;

b. Provision for establishing and maintaining adequate educational standards;

c. Provision to assure appropriate medical supervision over services to patients."

5. . . . "The extension of governmental licensure and/or certification for scientific, professional and technical health personnel is not indicated except when it is mutually agreed that such regulation is necessary in the public interest and such legislation is

jointly developed and supported by the medical profession and the segments of medicine concerned and the group seeking statutory regulation. If instances do arise in which it is jointly agreed that it is necessary in the public interest that governmental (state) licensure and/or certification be developed for persons in activities directly involving the care of patients:

- 1) such statutes must require acceptable educational standards as determined by individuals acknowledged as leaders in education and practice in the field;

- 2) such statutes relating to services which involve the diagnosis or treatment of nervous, mental or physical illnesses or disorders of individual patients should require such services to be performed under the direct supervision of, or in genuine collaboration with, a qualified physician . . ."

6. . . . "Physicians need to assure in a cooperative and effective way that medical care is medically directed." . . .

VIEWPOINT OF AMERICAN PSYCHOLOGICAL ASSOCIATION

The American Psychological Association has stated the following in its publication *PSYCHOLOGY AND ITS RELATIONS WITH OTHER PROFESSIONS*:

"Since society endorses the independent private practice of the professions, the profession of psychology regards it as appropriate for its members to choose this method of practice, provided that they are properly qualified."

(further) . . . "the profession of psychology approves the practice of psychotherapy by psychologists only if it meets conditions of genuine collaboration with physicians most qualified to deal with borderline problems which arise (e.g.) differential diagnosis, intercurrent disease, psychosomatic problems. Such collaboration is not necessarily indicated in remedial teaching or in vocational and educational counseling."

The current *ETHICAL STANDARDS FOR PSY-*

CHOLOGISTS of the American Psychological Association, September 1962, states these principles in more general terms. Section b of Principle 2, "Competence," states:

"The psychologist recognizes the boundaries of his competence and the limitations of his techniques and does not offer services or use techniques that fail to meet professional standards established in particular fields. The psychologist who engages in practice assists his client in obtaining professional help for all important aspects of his problem that fall outside the boundaries of his own competence. This principle requires, for example, that provision be made for diagnosis and treatment of relevant medical problems and for referral to or consultation with other specialists."

HOW APPLY THE PRINCIPLES?

The general principles thus formulated above are accepted by the American Medical Association, the American Psychological Association, and the American Psychiatric Association.

Manifestly, however, they are only *guides* to the conduct of interprofessional relations between psychiatrists and psychologists. The patterns of specific working relationships between the two will vary from one community to another depending on such relative factors as tradition, the types of practice that predominate, the atmosphere of public service that prevails, the degree of competence of practitioners, and, in short, the readiness and willingness to cooperate.

It must be considered axiomatic that the purpose of "genuine collaboration" is to benefit patients and that it can take place only when there is mutual trust and respect between the two professional groups. It is recommended that both groups intensify their efforts to achieve this genuine collaboration by seeking closer contact and liaison during the training period for both professions. Further, it is proposed that liaison committees of psychiatrists and psychologists be established at state and local levels

to sustain thoughtful discussion of how to apply in practice such abstractions as "genuine collaboration," "effective communication," and "medical responsibility." There have been several areas of specific concern which have been voiced by psychiatrists which are appropriate subjects for this further discussion and liaison, to wit:

1. a. Who should make an initial referral? Should this physician be a psychiatrist, or may he be a pediatrician, an internist, a general practitioner? Should the psychologist see only those persons referred by a physician?

b. It is recognized that the psychologist is sometimes the professional person *initially* consulted. In such cases it is recommended that the psychologist secure general medical and/or psychiatric collaboration, allowing the patient to make the primary choice of whom he wishes to consult but carrying out his responsibility for securing medical collaboration.

2. With reference to the broad concept of "genuine collaboration," it is mutually agreed that the patient should not be removed from the good practice of medicine. The essential problem is how to assure the patient of medical control over his medical care, regardless of the professional background of the psychotherapist. Complete medical control, rigidly interpreted, implies supervision of the psychologist by the psychiatrist. As indicated above, however, in actual practice, the relative rigidity of interpretation of "medical control" will vary according to several factors. For example, the patterns of practice in a university hospital differ from those of a state hospital, and these in turn differ markedly from practice in an urban or suburban upper middle class milieu. From these must be differentiated the small city or rural area where few, and often no, psychiatrists are to be found.

Mere referral of a patient to a psychologist for psychotherapy or testing, without follow-up contact or consultation between

psychiatrist and psychologist cannot be considered "genuine collaboration," although it is recognized that in certain cases and circumstances the *initiative* for further follow-up consultation is properly that of the psychologist. When organic pathology—peptic ulcer, for example—is present, the appropriate consultant for the psychologist, and often the psychiatrist, is the internist, family physician, or other medical specialist. The sustaining principle is the close and frequent contact between the psychiatrist and psychologist is essential, and most especially in borderline cases where they may be a risk of suicide, for example.

While supervision at regular intervals, weekly, for example, might be advisable in some cases, the reality must be faced that it is impracticable in the majority of cases, even when the psychiatrist and psychologist desire it. The manpower and the man-hours are simply not available. Some psychiatrists insist on this as essential to their collaboration, as is their right. It is the Committee's opinion, however, that the rule cannot be universally applied since to do so would make it impossible for psychiatrists generally to meet all of the requests for supervision in all cases together with their other obligations.

3. Responsibility for medication for patients in psychotherapy with psychologists is clearly that of the physician. The responsibility is poorly discharged, and good medical and psychological practice are subverted when the physician merely furnishes prescriptions without consultative contact concerning the over-all care of the patient. The same applies to the physician who accepts referrals for electroshock therapy. Such practices are strongly condemned by the American Psychological Association and the American Psychiatric Association.

4. The care of children, whether in a public or private agency, school, or court setting, is a collective responsibility of psychiatrists, psychologists, pediatricians, social workers, and other specialized personnel.

Further liaison and study are needed to spell out how the responsibility can be more effectively discharged. For example, in the case work-up of a child with a reading disability there should be careful evaluation by an ophthalmologist, a neurologist, and general physician as well as by the psychologist and psychiatrist. A study of the home setting, the family milieu, and socio-economic factors are similarly pertinent.

CONCLUDING COMMENT

There is increasing public awareness of mental health needs and of the serious manpower shortage in all of the mental health disciplines. The problem will become more acute as more mental health centers are established under the provisions of new Federal legislation. It will severely tax both professions to staff these centers and to ensure that they are operated according to sound medical, psychiatric, and psychological standards and practices. There is similar public awareness of the need for intensified

research looking to improve treatment methods and ultimately to the prevention of mental illness and mental retardation. Psychiatry can only express its gratitude to psychology for the contributions it has and is making to mental health research, particularly in psychotherapy, and cherishes the hope that the full potential of that contribution will be realized in the years ahead.

Thus, the overwhelming public interest leaves no place for petty squabbles in building more effective interprofessional relations between the two major professions dedicated to the better understanding of human motivation and behavior. What is called for is a sustained, thoughtful seeking of answers to the fundamental questions posed herein—answers which will be in the best interests of the mentally ill. The American Psychiatric Association proposes to work to this end and urges upon its District Branches that they lend support in every feasible way to improving the liaison between psychiatrists and psychologists at the state and local level.

Our New Drug Research Dilemma

On one extreme is the opinion that any physician who is qualified to practice medicine is qualified to test new drugs. The wording of the (new FDA) regulations and testimony given at the hearings conducted by the late Senator Kefauver would seem to refute this. On the opposite pole we find two contending philosophies; one, that the physician who tests drugs in humans must be first of all a thoroughly-trained pharmacologist who then applies this knowledge and training to a study of drugs in man, or that he should be trained primarily in clinical medicine, for several years beyond the internship, during which time he will have carried out investigations on patients, some of which will have been studies on drugs. These are the two horns of the dilemma that are facing clinicians, investigators, medical educators and government officials today.—Harry F. Dowling, M.D., in *J.A.M.A.*, January 18, 1964.

Laboratory Isolations of Salmonella and Shigella

Recently the isolations of the primary enteric pathogens of the genera *Salmonella* and *Shigella* were reviewed at the Medical College of Virginia.

The period reported upon in this article is the seven-year span from 1956 to 1962 inclusively. The predominating genus of enteric pathogens encountered during this period of time was *Shigella*, with two hundred and fifty-seven cases of bacillary dysentery.

This genus of organisms is tentatively identified in the laboratory by a system of biochemical tests with the ultimate recognition resting upon serological detection of characteristic antigens. By common agreement the genus *Shigella* is divided into four groups designated by A, B, C, D. Each of these groups has a type species representing the principal component of the group. Thus, group A is represented by *S. dysenteriae*, group B, *S. flexneri*, group C, *S. boydii*, and group D, *S. sonnei*.

Shigella flexneri, the type species of group B was isolated from one hundred and eighty-eight cases. *Shigella sonnei* was isolated from sixty-nine cases. No isolations were made of *Shigella boydii* or *Shigella dysenteriae*. This latter organism is extremely rare in the United States and its isolation is unexpected. *Shigella boydii*, however, does occur and statistically one would not have been surprised to find an occasional isolation of this organism.

Man is the sole natural source of the dysentery organisms. The origin of the infections reported, therefore, are either from active cases of dysentery or convalescent carriers. This distribution may be directly from patient to patient or through intermediary action of food or water. Breakdown in sanitary practices or unsatisfactory per-

sonal hygiene can be blamed for Shigellosis.

During this same seven-year period, one hundred and fifty cases of Salmonellosis were established by laboratory isolation of the causative agent. The genus *Salmonella* contains over two hundred and fifty species of antigenically interrelated organisms all of which are pathogenic for animals or man. They produce patterns of disease ranging from a relatively mild enteritis through the enteric fever (characterized by the disease typhoid fever) to rapidly fatal septicemias. The pattern of the disease is dependent on species related virulence characteristic of the organism, the numbers of organisms and their route of inoculation and the state of the resistance factors of the host. A review of the initial specimens from which the *Salmonella* were recovered gives some suggestion of the frequency of severe disease in this area.

Initial recovery of the organisms was from stool specimens in fifty-eight per cent of the one hundred and fifty cases reviewed. Blood cultures were the source in twenty-two per cent and throat cultures in thirteen per cent. The remaining seven per cent of the organisms were recovered from swabs or aspirates of osteomyelitic material, joint fluid, urine, aneurysms, spinal fluids, burns, liver abscess and other miscellaneous sources. None of these sources accounted for more than one per cent.

The thirteen per cent of initial isolations of *Salmonella* from throat cultures is an unusual finding, since it is unlikely that these organisms would establish a permanent flora in the mouth and throat. The occurrence of organisms in this area must be viewed as a part of a transitory flora and may be explained either by (1) a massive inoculation in the process of ingesting *Salmonella* contaminated food or beverage, or (2) persistence of smaller inocula discovered

only because there was an extremely short period of time between initial inoculation and the time of culturing, or (3) the absence of normal flora from the area as a result of previous antibiotic treatment.

The most desirable specimen for the bacteriological confirmation of your diagnosis is that containing viable organisms at the time of culturing. This depends on the pathogenesis of the disease and the stage during which one is examining the patient. Perhaps, the experience developed from the review of isolations of *Salmonella typhosa* will serve to illustrate the point. In fourteen cases of typhoid fever encountered during the period of this report, the initial isolation was made from stool cultures in only twenty-one per cent of the cases. Blood cultures accounted for fifty per cent of the initial isolations. The remainder of the *Salmonella typhosa* identifications were made on organisms derived from miscellaneous fluids representing in most instances complications arising from systemic spread of the organisms. It is particularly interesting that none of the initial isolations were made from urine. It is reported as a fact that invasion of the kidney occurs relatively late in the course of typhoid fever. We would conclude therefore that all of the typhoid fever cases examined during the current period were recognized and treated relatively early in their course. The initial isolation of the organisms in fifty per cent of the cases from blood cultures and in only twenty-one per cent of the cases from stool cultures would seem to bear out this conclusion, inasmuch as there may be constipation rather than diarrhea in the early stages of typhoid fever. Invasion of the blood stream usually occurs prior to the onset of the diarrhetic phase of the disease.

Salmonella cholera-suis (Kunzendorf var.) is a species of *Salmonella* causing an enteric fever with a marked tendency towards systemic spread. It is interesting to note that the pattern of specimens from which isolations were made is similar to that

of *Salmonella typhosa*. Eight per cent of the *Salmonella cholera-suis* (Kunzendorf variety) were isolated from stool, fifty per cent from blood cultures, sixteen per cent from joints or abscesses and miscellaneous unidentified tissues and fluids. Three initial isolates were made directly from aneurysms of major vessels. Therefore, particular prognostic significance must be attached to the report of the occurrence of *Salmonella cholera-suis* (variety Kunzendorf) in view of the remarkably high incidence of significant systemic sequellae in infections due to this organism.

Among all species of *Salmonella* isolated, *Salmonella typhi-murium* was the most common. These findings are consistent with other reports of this organism as the most frequent cause of *Salmonella* food poisoning. Sixty-six per cent of the primary isolations were made from stool cultures. Only seven per cent of the fifty-four infections due to *Salmonella typhi-murium* were diagnosed by initial isolation from blood cultures indicating a low but significant systemic spread of this organism.

The one hundred and fifty *Salmonella* organisms isolated during the seven-year period of this report represents approximately ten per cent of the recognized species of *Salmonella*. Here is a listing of the serological groups, species of organisms, and numbers of isolations for each:

Serological Group	Species	No. Isolated
B	typhi-murium	54
	chester	2
	reading	3
	st. paul	2
	derby	7
	para-typhi B	1
	heidelberg	6
	indiana	4
	untypable	1
	oranienberg	6
	cholera-suis	
C	(Kunzendorf)	12
	infantis	7

	montevideo	4
	tennessee	1
	bareilly	2
	untypable	2
	litchfield	5
	kentucky	1
	manhattan	1
	newport	3
	muenchen	1
	blockley	1
D	typhosa	14
	javana	2
	enteritidis	4
E	anatum	2
	minnesota	1
	Ungrouped worthington	1

Those species of *Salmonella* most frequently occurring in this area are typhi-murium, typhosa, and cholera-suis in that order with *Salmonella typhosa* accounting for one out of every ten cases approximately and typhi-murium one out of every three.

Data from the State Health Laboratory indicates an isolation rate of *Salmonella typhosa* as one out of every two cultures. This higher rate occurs as a result of repeat cultures on the same patient and the periodic surveillance cultures maintained on known typhoid carriers (there are slightly over one hundred carriers in the State of Virginia).

While MCV isolated 29 species of *Sal-*

monella in its laboratories, the State Health Department Laboratory isolated 51 different species in this State. As most of you may know, the species name of the *Salmonella* are generally taken from the locality of the first isolation; it is therefore interesting that many species with a history of isolation in some exotic far away country are now undesirable residents of the Richmond area. It would appear that each year some new species is added to the ever-growing list of local *Salmonella*.

Since it is obvious that the organisms are in our environment, epidemics will occur from time to time. Several years ago there was a small epidemic in one of the patient care areas of our hospitals caused by *S. typhi-murium* and last June there was a large epidemic of *S. derby* in a number of hospitals in the Pennsylvania, New Jersey area which involved over 300 employees and is still continuing. Fortunately the high standards of sanitation and public health in this country tend to limit the opportunities for *Salmonellosis* of epidemic proportions and thus we have the sporadic, endemic disease noted here.

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Emphysema Patients Respond to Exercise Training

The stress imposed by exercise has sometimes been considered deleterious to patients with a combined heart-lung disorder. Researchers have found that patients with chronic lung disease who continue to be active remain in relatively better health for a longer period of time than their more sedentary counterparts. In a continuation of studies of patients with lung disease—in this case, severe emphysema—no ill effects were

noted from an exercise program. The patients were able to carry out their customary daily activity with greater ease. Results indicate that patients with chronic, obstructive pulmonary disease are benefited by regular physical exercise. (A. K. Pierce, M.D., and others: "Responses to exercise training in patients with emphysema," *Archives of Internal Medicine*, January 1964).

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Diabetes Detection Program

The incidence of diabetes being discovered in our rapidly increasing older population indicates the prevalence of this disease may be higher than physicians and public health workers previously thought. The mortality rate from diabetes per one hundred thousand in Virginia has increased from 11.8% in 1961, to 12.4% in 1962. Mortality among cases discovered after the development of symptoms is usually about one-third higher than in cases discovered before the development of symptoms. Persistent hyperglycemia and glycosuria with usual symptoms are late manifestations of the disorder.

The State Health Department's approach to diabetes control is early diagnosis of the disease. The objective of its diabetes program is to direct the attention of physicians and the public to the importance of detecting the disease in its asymptomatic stage.

Three means for achieving this objective are utilized. First, patients in various local health department clinics are offered a test for diabetes, especially those being seen for other chronic illnesses. These patients are generally older persons and the yield of positives is somewhat higher in this group than among the average population. In addition, medically indigent patients referred by the Department of Welfare and Institutions produce a number of previously unknown diabetics.

Another means is education. At health fairs and community health screening programs, blood sugar tests alone, or in conjunction with other health tests such as x-rays for tuberculosis, are turning up cases of unknown diabetes.

Every year, in cooperation with the American Diabetes Association, the Virginia

Diabetes Association and the local medical societies, a detection drive is conducted during Diabetes Week in November. Last year this screening service was offered to the general public in Norfolk City and the surrounding area. The experience in Norfolk demonstrated the value of searching for unknown diabetic patients. Of the approximately 3,400 persons whose blood was tested, 151 had elevated blood sugars above 130 mg%, which resulted in 44 newly diagnosed diabetics. This lends substantiation to recent findings that the prevalence of diabetes may be higher in metropolitan areas.

The third and most important means of early detection is by the private physician. Physicians' offices as well as hospitals produce a case yield approximately twice as high as screening the general public. There are now 200 private physicians participating in the State Health Department's efforts to find undetected diabetes. The Department's screening test is available to any physician who wishes to blood test patients falling into one of the potential diabetic groups:

- (1) a history of diabetes in the family;
- (2) mothers having given birth to children weighing nine pounds or more;
- (3) overweight persons;
- (4) individuals 40 years of age and over.

The Virginia State Laboratory uses the Somogyi-Nelson method which measures "true glucose" by excluding nonglucose reducing substances. The physician may again use this service for further diagnostic work on patients screening positive at 130 mg.%. Ofttimes the physician will ask the patient to return for a two-hour postprandial test. This service is of a casefinding nature and is not intended to be used for the control of known diabetics.

Blood sugar screening for the detection of diabetes has been an integral part of the overall chronic disease program in Virginia since the latter part of 1955. Approximately 113,243 persons have been screened under this program resulting in 4,028 persons having an elevated blood sugar with an end result of 1,009 previously undetected, newly diagnosed diabetics brought to treatment.

Diabetes surveys are sometimes conducted in an area which has been previously screened some time ago. When this occurs those patients screening positive on previous surveys but ruled out as not diabetic are reminded of the importance of yearly check-ups and invited to have another screening blood sugar test. Previous elevated blood sugars would certainly indicate the need for periodic observation of the patient.

The public health nurse, as with other

programs of the State Health Department, shoulders much of the responsibility for the diabetic patient. She is of tremendous aid to the private physician by assisting the newly diagnosed diabetic in adjusting to his changed health status. She teaches diabetics how to sterilize equipment for insulin administration, how to measure and give the insulin injections and how to rotate sites of injection. The Public Health Nurse keeps in touch with the patient's physician and informs him of changes in his condition and receives any new medical instructions. Oftentimes the nurse can persuade the diabetic patient to go for medical care when the first signs of a problem begin to appear. It is the nurse who often is the first to recognize an emotional or social problem which may be contributing to improper diet and drug therapy of the diabetic patient.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Apr.	Apr.	Jan.-	Jan.-
	1964	1963	Apr.	Apr.
			1964	1963
Brucellosis	0	0	2	0
Diphtheria	0	0	0	0
Hepatitis	49	75	222	401
Measles	3273	1359	6843	4172
Meningococcal Meningitis	12	13	26	49
Meningitis (Aseptic)	0	1	4	10
Poliomyelitis	0	0	0	0
Rabies in Animals	23	29	153	97
Streptococcal Infections	1019	734	5041	4463
Tularemia	0	0	3	5
Typhoid Fever	3	2	7	3

Slow Down, Mr. President!

EACH DAY we read in the news of another unexpected trip or unanticipated activity in which President Johnson has participated. His waking hours, and he is reputed to sleep but little, are filled by a constant round of self-imposed tasks, many of which could be delegated to others or simply by-passed altogether.

James Reston, the columnist, wrote last week "The man is a high compression machine and as such runs better at high speed, but lately he has been trying to settle every problem, shake hands with every visitor, confer with every senator, attend every public dinner and dance with every lady in town . . . He has made three speeches, held four press conferences, toured five states, opened the World's Fair, and settled the railroad strike in the last eight days, and the week ended with a fourth speech to the Gridiron Club, late Saturday night."

It is all very well for our chief executive to be able to do all these things, but is it wise for a man 55 years of age who had a severe myocardial infarction nine years ago to keep up this frantic pace? Fortunately the frequency with which an initial coronary thrombosis is followed by a second attack lessens as the years pass but the incidence never falls to the baseline enjoyed by the individual who has not had a myocardial infarction in the first place. This means the President is taking a greater risk than would the average citizen when he engages in the many extra-curricular activities, physical as well as mental, in which he delights.

This warning is prompted by no consideration of partisan politics, but as President Johnson frequently tells his visitors, he is "the only President" we have, and this becomes painfully evident when we recall who his successor would be should he, Johnson, become incapacitated. No one in the present line of succession was elected with any thought that he might have to carry out the duties of the presidency and no effort has been made to correct this hazardous situation which has existed since the death of President Kennedy. This should be remedied at the earliest possible moment, but meanwhile President Johnson should slow down for his own well-being as well as ours.

HARRY J. WARTHEN, M.D.

Political Activity by Physicians

PHYSICIANS have made important contributions to the political affairs of the world since the earliest days of recorded history. With the increasing amount of medical care that physicians are called upon to provide this activity is becoming more difficult but also more essential than in the past. By interest, training, and dedication physicians are primarily interested in patient care and their natural inclination towards government is to adopt the attitude of "Let George do it". In order to be effective we must all participate.

The location, construction and size of medical office buildings, community hospitals and private hospitals are determined by the men on the county boards and city councils. In some cases the policies of community hospitals are determined by these same elected officials. In order for these men to make a sound decision in these medical matters they must seek and receive advice from the physicians in the community. If the physicians have been active in the selection, election, and orientation of these officials, their advice will be sought early and often. If the physicians are politically active only when they want something, their advice is likely to be ignored. The average physician talks to more than fifty people each day. If he expresses a brief and carefully worded political opinion to these people he will be a potent force in moulding opinion in the community. He cannot waste time talking to those who already have closed minds, but a single sentence may often swing the vote of those who are undecided about an issue or a candidate. In the role of a civic minded opinion-maker the physician can help decide who will be elected to the local governing bodies. Each physician must know the candidates and how they stand on the important issues. Each physician must give financial, vocal and voting support to the best candidate.

The Governor of Virginia and the State Legislature decide how much money will be spent by the medical schools, the State hospitals, the State sanitariums, and the State Health Department. It is essential that these men seek, receive and follow medical advice on these matters. Every physician in Virginia should know his delegate and state senator by first name. He should understand the delegates' philosophy before election and he should let the delegate know his position on important legislation after election. To fail to know and consult with your representative is to be derelict in your duty as a citizen of the Commonwealth.

At the present time Virginia can be proud of its representation in the Federal Government. Our two Senators and nine of our ten Congressmen

share the same political philosophy that our founding fathers had. The majority of Virginia physicians share this same philosophy. One, and only against the free enterprise system at every opportunity. In the coming election it is essential that we all work for the reelection of those incumbents who by their past actions have demonstrated that they believe as we do. Contributions of money, time and effort are needed if we are to be successful. We can not afford to lose our freedom by political inactivity and waiting for "George to do it". Each of us must assume his share of this responsibility today.

JAMES M. MOSS, M.D.

The Lesson of Belgium

THE doctor's strike in Belgium may be over, but the lessons it has taught us linger on.

Many American newspapers editorially castigated the Belgian Medical profession for striking, while trying to preserve their special position of privilege and esteem. It seems that our editorialists failed to see that one can not reduce a professional man to a bureaucratic tool of the state, stripping him of his professional dignity, ethics and financial and social position; and at the same time expect this degraded individual to act with all the professional and moral virtue that one has hitherto associated with Medicine!

One can not have one's cake and eat it too, one can not combine professional excellence and bureaucratic servility, one can not expect self-sacrifice without some modicum of reward, either financial or social.

The lesson is clear, and one can only hope that the American People learn it fast and thoroughly, before some of our political demagogues lure it with the siren song of state medicine.

Yet another lesson must be learned, and that one is for all physicians in America. We all sat on our haunches while one entire segment of the world's doctors was being persecuted. We lifted not one finger to help the Belgian doctors. We were not concerned with our brother physicians in their time of need. Ask not for whom the bell tolls, it tolls for thee!

—Reprinted from the *Medical Bulletin of Northern Virginia*, April 1964.

New Members.

The following members have been received into The Medical Society of Virginia for the month of April:

Philip Austin, M.D., Alexandria
Patrick A. Carroll, M.D., Falls Church
Jesus C. Collazo, M.D., Portsmouth
John Armstrong Cross, Jr., M.D.,
Newport News
Edgar Burford Cutter, M.D., Roanoke
Timothy Horton Daley, M.D., Arlington
Walter Eduard Deyton, M.D., Danville
Robert Edward duPrey, M.D., Fairfax
Thomas Robert Glasco, M.D., South Hill
Moheb A. S. Hallaba, M.D., Richmond
Henry Desmond Hayes, M.D., Norfolk
Kenneth Clifford Henson, M.D.,
Martinsville
Gustavus Vaga Jackson, Jr., M.D.,
Millers Tavern
Eugene Howard Kagan, M.D., Petersburg
David John Kiernan, M.D., Arlington
Henry Donald Knox, M.D., Springfield
Edwin Lee Lytle, M.D., Richmond
John A. Owen, Jr., M.D., Charlottesville
Pasquale M. Palumbo, M.D., Falls Church
Morgan Eugene Scott, M.D., Radford
Robert Perry Singer, M.D., Richmond
DeWitt Sidney True, M.D., Chesapeake
David Barclay Walthall, III, M.D.,
Dublin
Thomas Saunders Robert Ward, M.D.,
Roanoke

Virginia Academy of General Practice.

At the annual meeting of the Academy held in Norfolk, May 7-10, Dr. Thomas L. Lucas, Alexandria, was installed as president, succeeding Dr. Frank Daniel, Charlottesville. Dr. Russell G. McAllister, Richmond, was named president-elect, and Dr. Aubrey L. Shelton, Norfolk, vice-president.

Dr. William Parson,

Chairman of the department of internal medicine at the University of Virginia, will become Muholland Professor of Medicine on July 1st. He has been a member of the University faculty since 1949.

Dr. Jan Langman

Has been appointed as chairman of the department of anatomy at the University of Virginia School of Medicine. He is now professor of anatomy at McGill University in Montreal and will assume his new duties on September 1st. Dr. Langman is a native of Bodegraven, The Netherlands, and is an internationally recognized embryologist with a special interest in immunoembryology. His recent work has been especially concerned with studies of the lens of the eye.

Horsley Memorial Lectureship.

The 18th Annual J. Shelton Horsley Memorial Lecture of the Richmond Academy of Medicine was presented by Dr. Francis D. Moore, Moseley Professor of Surgery, Harvard Medical School, and Surgeon-in-Chief of the Peter Bent Brigham Hospital, on April 28th. His subject was Studies in Transplantation of the Liver.

Retarded Child Clinic to Expand.

The Consultation and Evaluation Clinic for retarded children will soon move into enlarged quarters, expand its staff three-fold and provide the State's first diagnostic facilities for certain rare types of retardation. The expansion will be facilitated by the recent allocation of federal funds for mental retardation programs and these funds will be matched by some state funds which will be available July 1st. Since its founding nine years ago, the clinic, which is located in Richmond, has diagnosed and recommended programs for hundreds of Virginia's retard-

ed children. The new clinic will be in one of the buildings of the Medical College of Virginia and will provide at least three times as much space as is now being used. The Medical College has always provided physical facilities for the clinic and the State Health Department has provided funds for staffing and operation. The staff currently consists of four full-time and one part-time specialists, aided by several clerical workers. Dr. Ralph Ownby, Jr., is the full-time director.

Dr. William J. Hagood,

Clover, has been appointed a member of the speaker's bureau of the American Medical Association. He will be available to speak to civic clubs and other groups on a wide variety of topics relative to the field of medicine and the practice of it in this country.

Dr. Wine Honored.

Dr. J. E. Wine, Harrisonburg, was honored by the Rockingham Memorial Hospital Alumnae Association at its annual banquet held in April. He was presented a gift and praised for his dedication to his profession and the hospital.

American College of Physicians.

At the recent meeting of the College, seven Virginia physicians were elected fellows or associates. Elected as fellows were Drs. Charles D. Cooper, Alexandria; Cdr. William J. Jacoby, Jr., Portsmouth; John J. Kelly, III, Richmond; and Robert S. Hutcherson, Jr., Roanoke. Associates were Drs. Norman F. Wyatt, Hopewell; Capt. John G. Esswein and William W. Menninger, McLean.

Medical Assistants.

Physicians in the Richmond area will be interested in a new courtesy project recently launched by the Richmond Association of Medical Assistants. The project is designed to assist physicians in obtaining capable

medical assistants and also to serve as a referral service for qualified applicants.

Interested physicians may call the Richmond Academy of Medicine, The Medical Society of Virginia or any member of the Richmond Association of Medical Assistants. Inquiries may also be directed to P. O. Box 2369, Richmond, Virginia 23218.

Dr. E. Richard King,

Richmond, has been reappointed a member of the Committee on Nuclear Medicine of the American Medical Association.

Associates Wanted.

Generalist, Richmond, Virginia, environs. Clinic-type practice. Will teach or may do limited surgery and EENT if interested. Salary with extras first, then partnership. Send complete biography to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Needed.

A resident medical doctor to serve the community of Arvonion and surrounding area of approximately 4,000 people. Good opportunity for more than average income for rural doctor. Anyone interested, please write or call T. A. Yancey, President, Arvonion-Buckingham Slate Company, Incorporated, Arvonion, Virginia. Phone (Office) 581-3221; (Home) 581-3240. (*Adv.*)

Obituaries . . .

Dr. William Rush Whitman,

Prominent physician of Roanoke, died early in April, at the age of eighty-seven. His medical career spanned two-thirds of the history of Roanoke and when he joined the staff of Lewis-Gale Hospital in 1911, the City was but twenty-seven years old. Dr. Whitman graduated from the Medical College of Virginia in 1901 and was a surgeon with the Norfolk and Western Railroad at Bramwell, West Virginia, before locating in

Roanoke. He was chief surgeon of the Railroad for thirty-four years. Lewis-Gale Hospital had been in operation only two years when Dr. Whitman came as a partner of Dr. Sparrell Gale and he saw the institution grow from 26 beds to 180 and from 40 associated doctors to 300. He also had a part in its plans for merging with Jefferson Hospital into the new Roanoke Community Hospital now under construction. Dr. Whitman was a member of the City Board of Health, a member and past president of the Kiwanis Club and a trustee of Roanoke College, as well as a leader in many community endeavors. He retired from active practice three years ago. Dr. Whitman had been a member of The Medical Society of Virginia for sixty-three years.

Dr. Clarence Campbell,

General practitioner of Caroline County for more than fifty years, died at his home in Sparta on April 21st. He was eighty-two years of age and received his medical degree from the University of Virginia in 1911. Dr. Campbell retired from practice about six months ago. He had been a member of The Medical Society of Virginia since 1913.

A son and a daughter survive him.

Dr. James Walker Tipton,

Danville, died April 21st after an illness of six months. He was sixty-nine years of age and a graduate of the Medical College of Virginia in 1916. Dr. Tipton began the practice of diseases of the eye, ear, nose and throat in Danville in 1922. He was a member of The Medical Society of Virginia, having joined in 1924.

Dr. Willard Palmer Smith,

Prominent physician of Hampton, died April 21st after a long illness. He was sixty-two years of age and graduated from the Medical College of Virginia in 1927. Dr. Smith was organizer and first president of the Hampton Lions Club, a Shriner and a Mason. He was widely known as an ex-

hibitor of horses throughout the southeastern United States. Dr. Smith had been a member of The Medical Society of Virginia for thirty-three years.

His wife, a son and a daughter survive him.

Dr. Henry Gershon Kupfer,

Professor of clinical pathology at the Medical College of Virginia, died April 23rd, after a short illness. He was a native of Poland and fifty-four years of age. Dr. Kupfer received his medical degree from Charles University in Prague in 1935. He came to the Medical College of Virginia in 1947 as an instructor in clinical pathology. Dr. Kupfer was president-elect of the Virginia Society of Pathologists and a member of The Medical Society of Virginia since 1951. He was the author or co-author of more than thirty research papers, many of them in the fields of blood coagulation and blood vessel diseases.

His wife, a daughter and a son survive him.

Dr. Joseph Haven Hoge,

Sandston, collapsed while playing golf and died on April 8th. He was forty-five years of age and graduated from the Medical College of Virginia in 1950. Dr. Hoge was a major in the coast artillery corps during World War II and served in the medical corps during the Korean War. He had been a member of The Medical Society of Virginia for ten years.

His wife, a son and daughter survive him.

Dr. Welburn.

It is with sorrow that we record the death of Dr. W. C. Welburn which occurred on March 9, 1964, after a long illness.

Dr. Welburn was born in Nashville, Tennessee, in 1874. He received his M.D. degree from Vanderbilt University in 1899. After serving his internship at New York Polyclinic Hospital, he spent some time in Nashville and in Oklahoma, coming to Alexandria County (now Arlington) in 1905. He opened his first office at Glebe Road and Wilson Boulevard, and practiced medicine here for fifty-seven years except

for the years of World War I, during which he served in France in the Army Medical Corps.

Dr. Welburn established the Arlington County Medical Society in 1914 and served as its first president. He was instrumental in founding Arlington Hospital and was its first and only honorary Chief of Staff.

Dr. Welburn was honored by the Arlington County Medical Society on the occasion of his 50th year in practice by the establishment of the "Welburn Award" which may be presented annually to the person who makes the greatest contribution to medicine in Arlington County.

Dr. Welburn served as County Health Officer and Coroner and as Medical Examiner for many years, along with a busy general practice. He was known to have kept up with the giant strides that have been made in theory and practice of medicine over the span of sixty-two years.

Dr. Welburn was well known and highly respected by his professional associates, friends and patients, and they all loved him because of his ready wit, boundless energy and interest in the well-being of others.

THEREFORE, BE IT RESOLVED by the Arlington County Medical Society that we extend our sympathy to his bereaved widow and daughter.

BE IT FURTHER RESOLVED that these resolutions become a part of the minutes of the Arlington County Medical Society and a copy sent to his family.

JOHN H. JUDSON, M.D.

LEO SOLET, M.D.

MARTIN L. STOKER, M.D.

Dr. Morgan.

Dr. A. D. Morgan died February 2, 1964, at the age of 78. In his death this community has sustained a great loss. Dr. Morgan was an eye, ear, nose and throat specialist of outstanding ability. He was, also, a kind and sympathetic person whose warmth and understanding endeared him to his colleagues and to his many patients.

To the young physician starting in practice, he was always a source of help and encouragement. There are many in our Society who can remember him as a true friend in the early years of practice, when this meant so much.

Dr. Morgan's reception room was usually so crowded that patients spilled down the corridors; yet every patient was treated as though time did not matter, and the only concern was for the welfare of this

particular patient. His patients, naturally, were extravagant in their love and admiration for him. In the operating room he was a skilled technician, who never raised his voice, and who was a great favorite with the operating room staff, his assistants and associates.

A native of Raleigh, North Carolina, Dr. Morgan graduated from Wake Forest College in 1909. He received his Doctor of Medicine Degree from the Medical College of Virginia in 1911. His postgraduate training was taken in Manhattan Eye and Ear Hospital. He served as a Captain in the Medical Corps of the United States Army in World War I and came to Norfolk to practice in 1919. During his 45 years in this city, he was active in civic, church, fraternal and professional affairs and while he never sought the limelight, he received many honors for his work in these various fields. In such busy and full life, he yet found time for relaxation and diversion in his two hobbies, gardening and golf.

He was a member of Freemason Street Baptist Church and a deacon for 44 years; a member of Corinthian Masonic Lodge 266; Norfolk Consistory, Scottish Rite Bodies; Grice Commandery 16, Knights Templar; Khedive Temple of the Shrine; Royal Order of Jesters, court 75; Veterans of World War I, Tidewater Barracks 19; American Legion Post 35; 308th Infantry Division Association; 77th Division Association, and Lakewood Civic League.

He was on the medical staff of Norfolk General Hospital, Leigh Memorial Hospital, De Paul and King's Daughters Hospitals and was a member of the Norfolk County Medical Society, Medical Society of Virginia, Virginia Board of Medical Examiners, Tidewater Ophthalmology and Laryngology Society and a past president of the State association.

In the death of Dr. Morgan this community has suffered the loss of an outstanding physician and citizen;

THEREFORE, BE IT FURTHER RESOLVED that we, the members of The Norfolk County Medical Society, unite with his many grateful patients, his friends and his family in their bereavement.

BE IT FURTHER RESOLVED, that we convey to his family our sincere sympathy and deep respect for his memory; and that the evidence of our high regard be recorded in the minutes of the Society.

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to his family and to the Virginia Medical Monthly.

M. K. KING, M.D., *Chairman*

W. WICKHAM TAYLOR, M.D.

R. BRYAN GRINNAN, M.D.

Guest Editorial

A Presidential Address

TO HAVE BEEN A MEMBER of the Richmond Academy of Medicine for twenty-odd years has been a great pleasure and privilege. To be in this position tonight is indeed an added honor.

Long ago I ceased to be embarrassed, or even self-conscious, in any discussion of values. I firmly believe that the doctors in Richmond, as a whole, set ideals above personal objectives. There is much opportunity in the world to do good—to make human life majestic and tolerable there must be love and concern for others.

No profession offers a greater opportunity to do good or to show affection and concern for others than the medical profession. By our heritage and our stated purpose, we are committed to a position of responsibility for our fellowman. To discharge this responsibility we must have faith in ourselves, and in those whom we seek to serve.

Faith comes from being aware of each other—conscious that for us to be alive at all is the one grand mystery. To work and live together in harmony is a great privilege; and the truism that no man is an island entire of itself, is as applicable to doctors as to anyone else.

With awareness comes enthusiasm. When Sir Edward Appleton of the University of Edinburgh was awarded the Nobel Prize he was asked the great secret of his success. He answered in one word, "Enthusiasm!"

Our enthusiasm needs to be fortified with courage; courage to face failures, courage to accept success with humility, and courage to know that nothing we do can we accomplish alone.

Along with awareness, enthusiasm and courage must come work. The work of the medical profession is in constant evidence. "Work", as a surgical friend of mine once said, "That does not count hours, days, or weekends, or fringe benefits, or social life, or any of these manifold distractions and superficial rewards that dilute our energy and gnaw at our purpose." But, we also know that work alone makes Jack a dull boy to

his associates and somewhat of a bore to his friends. We need gracious interludes in a schedule of hard work. They are sweet relief from constant responsibility.

We all know our medical responsibility to our community is a taxing one, our association with each other trying at times. However, if we are dedicated to unity, it is possible to practice the keenest and most scientific medicine with kindness and good manners.

We should never prize too lightly nor take too casually the wonderful relationships we have with each other. We have progressed in the practice of medicine because we have a common body of knowledge and experience and a great common goal. Let us never fail to realize what a priceless privilege it is to associate with one another.

Naturally, as in any profession, and rightly so, there are differences in points of view and differences of opinion. It is from these same differences that our growth comes, and with discipline on our individual parts we can turn them into strength and advantage for the medical community—that community which is your and my responsibility.

I often think of our profession in the words of Dr. Lynn White of Mills College who wrote, "In a democratic age the only privilege is the privilege of service, the only nobility is the aristocracy of compassion."

If I possess any qualifications for this office, they are my respect and esteem for the practice of medicine.

J. ROBERT MASSIE, JR., M.D.

*1000 West Grace Street
Richmond, Virginia*

Chronic Bronchitis

JOHN L. GUERRANT, M.D.
Charlottesville, Virginia

Chronic bronchitis should be recognized for the common disease that it is, one that may be progressive leading to severe disability and death. Treatment, especially early, is often effective.

CHRONIC BRONCHITIS is a common respiratory disease. Early the symptoms are mild and disability minimal. However, it deserves serious consideration because it often precedes emphysema and may cause serious disability and death. It has been defined by the Committee on Diagnostic Standards for Nontuberculous Respiratory Diseases of the National Tuberculosis Association¹ as a clinical disorder characterized by excessive mucous secretion in the bronchial tree. It is manifested by chronic or recurrent productive cough. Arbitrarily these manifestations should be present on most days for a minimum of three months in the year and for not less than two successive years. The diagnosis can be made only by excluding other bronchopulmonary or cardiac diseases which may cause identical symptoms.

Incidence and Importance

Chronic bronchitis is common. Every practicing physician frequently sees patients with the disease. Two recent representative reports from the American literature con-

From the Department of Internal Medicine of the University of Virginia School of Medicine, Charlottesville.

Presented at the Annual Meeting of The Medical Society of Virginia, Roanoke, October 6-9, 1964.

firm what each of us knows. Anderson and Ferris² surveyed a large segment of a New England town and found 31% of the males and 12.9% of the females to have chronic bronchitis. Gocke and Duffy³ surveyed a group of men in Jersey City and found chronic bronchitis in 21%. In both studies the incidence of the disease was much greater in smokers. Numerous studies indicate that chronic bronchitis is even more common in the British Isles.⁴ For example in Scottish men 11% of all days of sickness are ascribed to bronchitis.

Chronic bronchitis may be a fatal disease. However, in America physicians seem reluctant to list it as the cause of death. They are more likely to record emphysema (a result of bronchitis) or asthma (one of its major symptoms). Fatal asthma without associated chronic bronchitis must be very unusual. In 1959 the combined death rate in the United States from bronchitis, asthma, and emphysema was 9.4 per 100,000 population. 16,548 people died from these diseases as compared with 10,627 from respiratory tuberculosis, and 17,042 from malignant tumors of the lungs and bronchi.⁵ It is even more important as a cause of death in the British Isles.⁴ For example in 1960 the mortality rate for bronchitis in Scotland was 43 per 100,000 of the population. In England and Wales it was 58. In Scotland bronchitis is responsible for about 2,500 deaths each year, compared with about 2,500 from lung cancer and 500 from respiratory tuberculosis.

Etiology

There is no single cause for chronic bronchitis. The etiological factors are multiple and complex and are all related in some way to increased bronchial mucus. The important factors are either irritants or infections.

All observers have found that most individuals with chronic bronchitis are cigarette smokers. The disease is also more common in dusty trades and in communities with heavy atmospheric pollution. Nearly all chronic bronchitics have either recurrent or chronic infections. Careful bacteriological studies are necessary to demonstrate the important organisms. The reports of May⁶ from England or Norman et al.⁷ and Davis et al.⁸ from this country are representative. *H. influenzae* or pneumococci are the common bacteria. Staphylococci, beta hemolytic streptococci and gram negative bacilli seem to be important in an occasional patient. No one has demonstrated that virus infections are important. Stuart-Harris⁹ suspects that they are provocative agents. Much has been written about the importance of cold, damp, and foggy weather. There is no doubt that bad weather aggravates the symptoms of bronchitis. The evidence that it causes the disease is not convincing.

Pathology

The pathology has been well described by Dr. Lynne Reid¹⁰ and by Dr. J. F. Ph Hers.¹¹

TABLE I
50 PATIENTS WITH CHRONIC BRONCHITIS
EFFECT OF AGE ON DEGREE OF DISABILITY

Age	Severe Disability	Minor Disability	Total
Less than 20.	0	1	1
20-29.	0	3	3
30-39.	0	3	3
40-49.	3	8	11
50-59.	1	10	11
60-69.	7	8	15
70-79.	3	3	6

In simple, uncomplicated, chronic bronchitis the basic lesion is hypertrophy and hyperplasia of the mucous secreting structures. Bronchial glands are enlarged without inflammatory cell infiltration. The goblet cells in the walls of the bronchi and bronchioli are increased in number. There is an associated thickening of that part of the bronchial wall lying between the epithelium

and the cartilage. When the bronchitis is complicated by bacterial infection additional pathological changes are seen. There is a marked squamous cell metaplasia over a great distance. On other occasions the ciliated epithelium persists but the cilia do not look quite normal. Eosinophilic leukocytes as well as some neutrophils are regularly found in the epithelium. There is a patchy inflammatory tissue reaction in the submucosa. A general occurrence is focal fibrosis with scar formation in the bronchial and bronchiolar walls with destruction of capillaries, elastic tissue, and cartilage. Hypertrophic folds and polyps of the mucosa perpendicular to the bronchiolar walls may be present.

Clinical Manifestations

The symptoms of chronic bronchitis are well known and need little discussion. Cough and sputum are present. They are usually worse on arising. If infection is present the sputum is purulent. During acute exacerbations fever and malaise are common. Many patients wheeze. Chronic dyspnea is unusual until late when emphysema has developed. The physical examination may be normal or there may be basilar rales and wheezes. The chest x-ray is often normal. There may be some accentuation of lung markings. Good bronchograms are often difficult to obtain because of the cough and bronchospasm. One often sees slight bronchial dilatation, narrow spastic bronchi, and dilated bronchial gland ducts. Films taken during expiration may show very marked bronchial collapse and airway obstruction. At bronchoscopy the membrane is often red and edematous, the bronchi small, and secretions purulent.

Differential Diagnosis

Cough is a common symptom of many respiratory diseases. Any patient with a chronic cough should have a thorough examination. Tuberculosis, primary or metastatic tumor, bronchiectasis, cystic fibrosis

of the pancreas, sinusitis, allergic asthma, heart failure, and anxiety may be confused with chronic bronchitis.

Treatment

The treatment of uncomplicated bronchitis is simple and effective. Smoking must be avoided completely. Bacterial infections should be treated if present. Purulent sputum indicates infection. If the sputum is mucoid, antibacterial drugs are rarely effective. Numerous studies have demonstrated that nearly all infected bronchitics have *H. influenzae* or pneumococci in their sputum. Therefore treatment should be directed at these organisms. Tetracycline or a combination of penicillin and streptomycin are the drugs of choice. They should be given in large doses for five or more days. Sputum cultures are not needed to start treatment. If the sputum is purulent an antibiotic should be used. Sputum cultures may provide useful information in the occasional patient that does not improve. When wheezing is present drugs to relieve bronchospasm should be used.

Chronic Bronchitis Patients

A group of 50 bronchitis patients illustrates some of these principles. All fulfilled

years. None of them had any other significant recognizable pulmonary disease.

In this group chronic bronchitis was a very variable disease. Age ranged from nine to 77 years. Some rapidly developed severe disability while others coughed for years with no apparent ill effect on either the respiratory function or general health. For example one man smoked up to three packages of cigarettes daily for 55 years and coughed for 50 years. At age 70 he was still well and had an excellent exercise tolerance.

Fourteen of these patients had severe disability due to their respiratory disease. The other 36 patients ranged from no disability to moderate shortness of breath that prevented strenuous exercise. Tables I and II show the relationship between disability and age, sex, smoking, frequent severe respiratory infection, and asthma. The patients with severe disability were short of breath following a short walk on the level. Most of them were unable to work. The smokers included all patients who smoked regularly regardless of how many cigarettes they consumed. Frequent severe respiratory infections referred to individuals who had had many chest colds over the years with purulent secretions and usually with fever. Most of them had missed days of work with each cold. Asthma referred to episodes of wheezy dyspnea. It did not include minor chronic wheezing.

Severe disability did not occur in any patient less than 40 years old. The three patients less than 50 with severe disability had severe infections.

Most of these bronchitics were males. This has been true of all series reported. Only one of the females had severe disability. Most patients were smokers. However, there were seven who denied smoking. So many non-smokers in a group of bronchitics is unusual. Only one of these had severe disability.

About half of these patients with chronic bronchitis had repeated severe infections and about half had asthma. Both of these associated conditions seemed to increase the frequency of severe disability.

TABLE II

50 PATIENTS WITH CHRONIC BRONCHITIS
EFFECT OF SEX, SMOKING, RESPIRATORY INFECTIONS,
AND ASTHMA ON DISABILITY

	<i>Severe Disability</i>	<i>Minor Disability</i>	<i>Total</i>
Male.....	13	26	39
Female.....	1	10	11
Smokers.....	13	30	43
Non-Smokers.....	1	6	7
Severe Infections..	8	16	24
Minor Infections..	6	20	26
Asthma.....	9	15	24
No asthma.....	5	21	26

the criteria of the National Tuberculosis Association for chronic bronchitis in that they had coughed and raised sputum for

These patients have not been followed long enough to provide useful information on the course of chronic bronchitis or the long-term results of treatment. However, it is possible to make some observations on short periods of treatment. Twenty-three of them stopped smoking. In 19 of these the cough stopped or improved greatly. In four the cough did not improve satisfactorily. Infectious exacerbations were common. When they had purulent sputum they were treated with an antibiotic without waiting for sputum cultures. Tetracycline or a combination of penicillin and streptomycin were used most often. They usually improved but an occasional patient required some other antibiotic such as chloramphenicol, erythromycin, or coly-mycin. None of these patients was treated with an antibiotic for a prolonged period.

Summary and Conclusions

Bronchitis may be a progressive disease leading to severe disability and death. The recorded mortality rates and the fact that in 50 patients with chronic bronchitis 14 of them are already in severe difficulty support this conclusion. Patients with chronic bronchitis are seen by all physicians. They should be recognized and treated. Chronic bronchitis starts as a mildly annoying condition. It usually occurs in men over the age of 35 who are cigarette smokers. The only symptoms are cough and a little sputum. The individual with a chronic cough deserves just as careful attention as the one with asymptomatic hypertension, hyperglycemia, or a prostatic nodule. Unfortunately he does not get it. If the chest x-ray is negative he is often told that it is "just a cigarette cough" and that no treatment is needed. This is particularly unfortunate because

treatment for chronic bronchitis may be much more effective than in many other chronic diseases.

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Surgical Emergencies of the Lower Gastrointestinal Tract

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An etiologic diagnosis may not be possible in every case but if the patient's illness involves obstruction, inflammation, perforation, or hemorrhage in the colon, then there is a surgical emergency.

IN CONSIDERING THE SURGICAL EMERGENCIES of the lower gastrointestinal tract it is apparent that the pathophysiologic processes involved may be resolved into four basic categories: Obstruction, inflammation, perforation and bleeding (Table I). Examples of the variety of diseases which

TABLE I

SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT

CATEGORIES OF PRESENTATION

- Obstruction
- Inflammation
- Perforation
- Hemorrhage (Massive)
- Vascular Emergencies
- (excluded from discussion)

may be responsible for each of these pathologic states are presented in Tables II, III, IV and V. If one excludes acute appendicitis from this discussion, then these problems constitute the unique, although certainly not the exclusive afflictions of infancy and old age. Since it is not the intent of this presentation to discuss the idiosyncrasies of pediatric surgery, diseases peculiar to this group have been omitted. It will suffice to

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point out that malformations of the anus and rectum account for 41 percent of all neonatal obstructions.⁹ It is notable that carcinoma and diverticular disease appear under three and four headings respectively, and

TABLE II

SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
ETIOLOGY OF OBSTRUCTION (7, 12, 22, 25, 26, 29)

Disease	Approximate Incidence
1. Carcinoma.....	60-95%
2. Diverticulitis.....	4-20%
3. Volvulus.....	5-30%
(Sigmoid, cecal, transverse colon)	
4. Incarcerated hernia.....	
5. Intussusception.....	
6. Obturation obstruction.....	
(FB, gallstone, bezoar, fecal impaction)	
7. Adhesions.....	2-10%
8. Other inflammatory obstructions.....	
(Lymphogranuloma venereum, actinomycosis, tuberculosis)	
9. Traumatic hematoma.....	
10. Endometriosis.....	
11. Pneumatosis cystoides intestinalis....	

both of these are primarily diseases of the older age groups. Of all carcinomas of the colon, 66 percent present past the age of 50.²⁵ Between 5 percent and 30 percent of

TABLE III

SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
ETIOLOGY OF INFLAMMATION (22, 25)

Disease	Approximate Incidence
1. Appendicitis.....	94%
2. Diverticulitis.....	5%
3. Fulminating ulcerative colitis.....	
4. Granulomatous colitis or ileocolitis...	
5. Primary colonic ulcer.....	
6. Amoebic colitis.....	1%
7. Tuberculous colitis.....	
8. Actinomycosis.....	
9. Bacillary dysentery.....	

these cases are first heralded by an emergency,²² approximately 20 percent with complete

obstruction and 7 percent with a free perforation.⁴ Diverticulosis is rare before the age of 40, but is found in 30 percent of persons over age 60 who have a barium enema for any

TABLE IV
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
ETIOLOGY OF FREE PERFORATION (1, 2, 7, 8, 14, 15, 17, 22)

Disease	Approximate Incidence
1. Carcinoma.....	20-56%
2. Diverticulitis.....	35-63%
3. Ulcerative colitis.....	9%
4. Miscellaneous non-traumatic causes.... (Tbc, strangulated hernia, stricture, actinomycosis, stercoral ulceration, amoebic and bacillary dysentery)	4-21%
5. Trauma..... (External blunt injury, external penetrating wound, impalement and pneumatic rupture [Sigmoidoscopy], internal penetrating wound [FB])	5-31%
6. Spontaneous rupture.....	

reason^{25,27} resulting in diverticulitis in 20 percent of these.²⁷ Furthermore, one-fifth of the patients with diverticulitis will ultimately have a serious complication requiring

TABLE V
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
ETIOLOGY OF MASSIVE HEMORRHAGE (18, 19, 20)

Disease	Approximate Incidence
1. Diverticular disease.....	41-77%
2. Carcinoma.....	11-16%
3. Ulcerative colitis.....	8%
4. Polyps.....	6- 8%
5. Miscellaneous causes..... (Amoebic dysentery, tbc, radiation proctitis, hemorrhoids, intussusception, hemangioma, trauma)	8-15%

emergency surgery.^{10,28} Thus, it is apparent that, in an aging population, these problems are assuming increasing importance. The geriatric aspects of this situation can be further emphasized by the following statistics (Table VI). In a recent series of 980 emergency abdominal operations,²¹ 123 were performed on patients over 70 years of age with an operative mortality of 29 percent. This is in contrast to an operative mortality in the younger age group of only 3.4 percent. When the colon was involved, the operative mortality rates, exclusive of acute appendicitis, were 50 percent and 18 percent re-

spectively. Furthermore, whereas only 5 percent of abdominal emergencies in patients under the age of 70 involved the colon, disease of this organ was emergent in 25 per-

TABLE VI
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
EMERGENCY ABDOMINAL OPERATIONS IN OLD AGE*

	Age < 70 Years	Age > 70 Years
Number of Cases.....	857	123
Overall operative mortality.....	3.4%	29%
Incidence of colonic disease†.....	5%	25%
Operative mortality with colonic disease†.....	18%	50%

*Statistics derived from ref. 21.
†Exclusive of acute appendicitis.

cent of the elderly group, and in 90 percent of these patients it was related either to carcinoma (70 percent) or to diverticular disease (20 percent). As in the case of every medical emergency, early diagnosis is the crux of successful treatment.

Diagnosis

Each of the categories in Table I has its characteristic signs and symptoms, and even if an exact pathologic diagnosis is not attainable in every instance, a decision must be made as to whether the case is or is not a surgical emergency. In outlining the diagnostic findings associated with these situations only the acute presentation will be considered, but it must be remembered that many of the precipitating diseases have had an antecedent history.

Obstruction of the lower gastrointestinal tract has, as its cardinal symptoms, lower abdominal colic, obstipation and abdominal distention (Table VII). Vomiting makes a late appearance as opposed to the situation with upper gastrointestinal obstruction. Diarrhea is an occasional complaint, but the passage of mucus or blood is unusual. Physical findings depend upon the stage of the process. With early, incomplete, or incipient obstruction the patient may be severely uncomfortable, but not acutely ill. Vital signs are often stable except for a mild tachycardia and fever is absent. Abdominal

examination reveals distention, tympany, borborygmus, and diffuse mild tenderness without the signs of peritoneal irritation. At a later stage this situation may be critical with dehydration secondary to deprivation,

clinical evidence of dehydration or impending gangrene. Serum electrolytes and blood urea nitrogen are of value in advanced cases but by no means always essential. Basic diagnostic radiology is extremely useful and

TABLE VII
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
DIAGNOSTIC FEATURES OF OBSTRUCTIONS

<i>Symptoms</i>	<i>Signs</i>	<i>Laboratory Data</i>
Colic	Moderate illness	WBC normal to ▲
Obstipation	Mild tachycardia	HCT normal to ▲
Distention	Afebrile	Urine Sp. Gr.; Acetone
Nausea	Distention	Electrolytes
Vomiting	Tympany	BUN normal to ▲
Diarrhea	Borborygmus	x-rays
Hematochezia	Tenderness	

fluid loss into the gut and vomiting. Peristalsis eventually is absent and localized tenderness with peritoneal signs portends gangrene and incipient disastrous perforation, usually of the cecum. Emergency laboratory data

ideally should include emergency barium enema for localization. The value of routine flat and upright abdominal films is emphasized by the accompanying figures depicting early obstruction (Fig. 1), advanced ob-

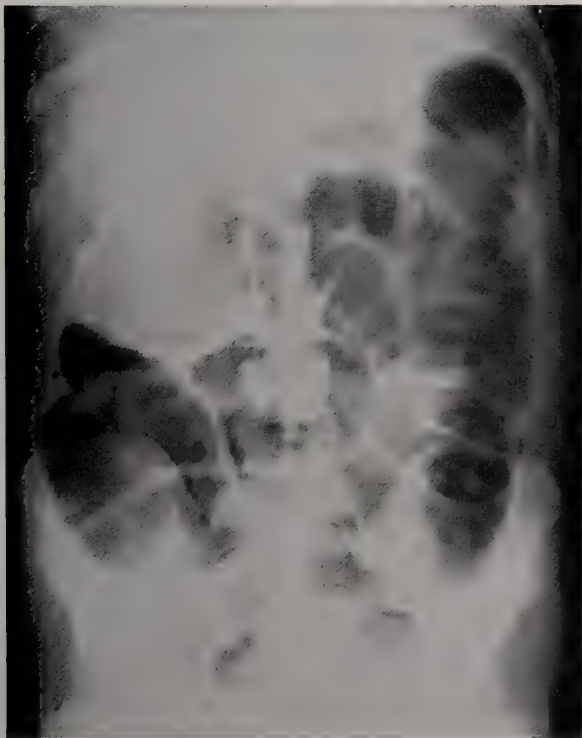


Fig. 1. Flat film. Early rectosigmoid obstruction secondary to metastatic carcinoma of the cervix.



Fig. 2. Flat film with barium. Advanced obstruction of the sigmoid colon secondary to carcinoma.

must be confined to those tests which are easily and immediately available. The hemo-gram and urinalysis are vital and confirm

struction with imminent cecal perforation (Fig. 2) and closed loop obstruction secondary to cecal volvulus (Fig. 3). It is of

interest in this regard that diastatic perforation of the cecum is thought to be likely when the transverse cecal diameter exceeds nine centimeters on the flat film.¹³



Fig. 3. Upright film. Cecal volvulus.

The diagnostic features of acute inflammatory disease of the large bowel are typified by the classic findings of acute appendicitis (Table VIII). Pain is quite severe and al-

and anorexia is virtually always present. Diarrhea is an occasional symptom and in some circumstances is accompanied by the passage of mucus and blood. Physical ex-

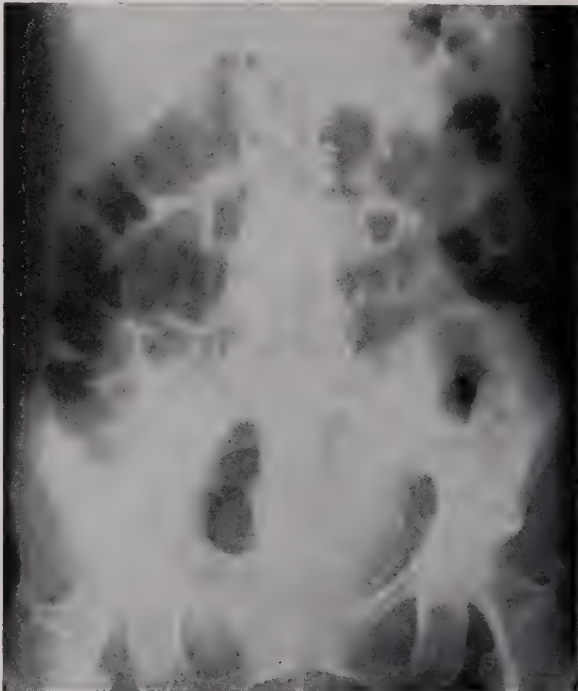


Fig. 4. Flat film. Adynamic ileus secondary to acute diverticulitis without obstruction.

amination will demonstrate an acutely ill patient with fever and tachycardia. The

TABLE VIII
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
DIAGNOSTIC FEATURES OF INFLAMMATION

<i>Symptoms</i>	<i>Signs</i>	<i>Laboratory Data</i>
Pain	Acute illness	WBC Mod. ▲
Anorexia	Moderate tachycardia	HCT normal to ▲
Nausea and vomiting	Moderate fever	Urine normal
Constipation	Slight distention	
Diarrhea	Absent peristalsis	
	Localized tenderness	
	Peritoneal irritation	
	Mass	

though initially cramping in nature, it soon becomes steady and localized in the area corresponding to the underlying pathology. Since motion aggravates the distress, the patient is reluctant to be disturbed and often lies rigidly still. This is in contradistinction to the intermittent writhing which may accompany the spasms of intestinal colic. Nausea and vomiting are frequent complaints,

abdomen is slightly distended and silent with diffuse tenderness maximal in the area of involvement. The localizing signs of peritoneal irritation are present in varying degree and include muscular spasm, rigidity, rebound and percussion tenderness and local pain associated with coughing. A distinct mass is rarely palpable. Basic diagnostic laboratory studies will show leukocytosis and

the hematocrit may be elevated if there is associated dehydration. Urinalysis is helpful in the differential diagnosis of renal disease and may also reflect dehydration. Again, blood chemistries are somewhat of an embroidery. Radiology here has less to offer and abdominal films may reveal nothing more diagnostic than ileus which may be difficult to differentiate from partial obstruction (Fig. 4). Special roentgenologic procedures have little significance in the early evaluation of these cases.

Perforation of the large intestine must be subdivided into the localized and the generalized varieties. Only a few features distinguish localized perforation from localized inflammatory lesions (Table IX). In the former case, the patient will usually have a more prolonged antecedent history than in the latter, particularly since the principle offenders, carcinoma and diverticulitis, usually perforate in this fashion. Furthermore, although the pain, nausea and vomiting are quite similar in both cases, the intensity of symptoms may be less severe with a localized perforation due to the mobilization of natural defenses which allow the walling-off process to occur. The physical findings in this instance may be virtually indistinguishable from localized inflammation with one single paramount exception. The

density or obliteration of normal shadows. Barium studies, if performed, will show an extraluminal mass associated with extravasation of contrast material (Fig. 5).

In direct contradistinction to the localized

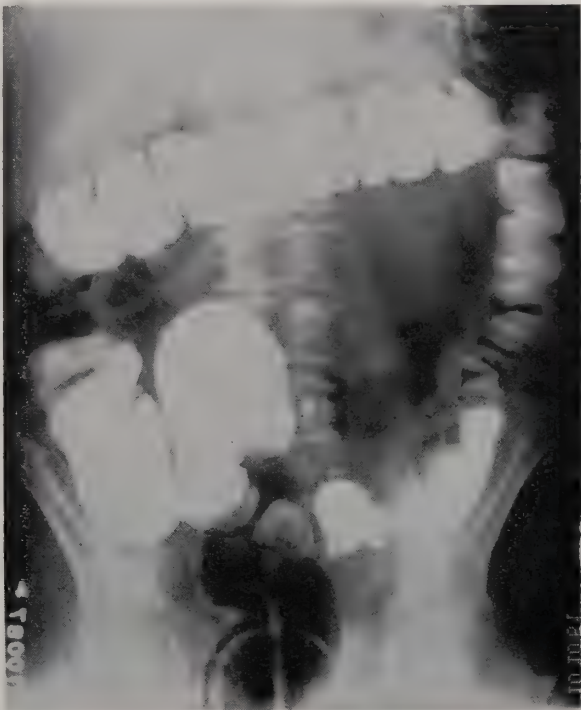


Fig. 5. Barium enema showing a localized sigmoid perforation with extraluminal barium secondary to diverticulitis.

form, generalized perforation most frequently declares itself as a sudden catastro-

TABLE IX
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
DIAGNOSTIC FEATURES OF LOCALIZED PERFORATION

<i>Symptoms</i>	<i>Signs</i>	<i>Laboratory Data</i>
Longer duration	Mod. acute illness	WBC mod. ↑
Pain	Mod. tachycardia	HCT normal
Anorexia	Mod. fever	Urine normal
Nausea and vomiting	<i>Abdominal Mass</i>	
Constipation	Slight distention	
Diarrhea	↓ to absent peristalsis	
	Localized tenderness	
	Peritoneal Irritation	

cardinal sign of a walled-off perforation is the presence of a palpable mass secondary to the formation of an abscess. Critical laboratory data show a leukocytosis consistent with the presence of infection, and x-rays will occasionally demonstrate a soft tissue

phe (Table X). This is the surgical emergency of the lower gastrointestinal tract *par excellence*, since early surgery is mandatory in every case. Symptoms here are sudden, severe, generalized abdominal pain with nausea, vomiting, prostration and frequently

shock or impending shock. The physical findings are a distended, silent, board-like abdomen with diffuse tenderness, rigidity and peritoneal reaction. Laboratory examination reveals marked leukocytosis along

and the rupture of any other abdominal viscus must depend to a great extent on antecedent history, and this differentiation is not made preoperatively in approximately 50 percent of the cases.^{2,10} One further sim-

TABLE X
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
DIAGNOSTIC FEATURES OF GENERALIZED PERFORATION

<i>Symptoms</i>	<i>Signs</i>	<i>Laboratory Data</i>
Severe generalized pain	Severe illness	WBC high
Nausea and vomiting	Tachycardia	HCT ▲
Prostration	Fever	Urine ▲ sp. gr.; acetone
Shock	Distention	Electrolytes - acidosis
	Diffuse tenderness	
	Absent peristalsis	
	Rigidity	

with evidence of dehydration. Blood chemistries confirm the dehydration which is secondary to fluid shifts caused both by gen-

ple diagnostic test is of inestimable help in this regard. Abdominal paracentesis is often definitive and has been demonstrated to be



Fig. 6. Upright film. Free perforation of the rectosigmoid with free air secondary to ulcerative colitis.

eralized peritonitis and by shock. These patients are too ill to undergo special studies, but if flat and upright films of the abdomen are obtained, these will demonstrate free air in the peritoneal cavity in 30-40 percent of cases^{1,11} (Fig. 6), although its absence does not mitigate against the diagnosis (Fig. 7). Distinction between colonic perforation



Fig. 7. Upright film. Free perforation of the sigmoid without free air secondary to diverticulitis.

innocuous both experimentally and clinically.⁶

Finally, there remains a discussion of the least common surgical emergency of the

lower gastrointestinal tract, massive hemorrhage (Table XI). Bleeding from colonic lesions is not rare, but hemorrhage of an emergent nature is unusual. Probably the most common cause is diverticular disease, either diverticulitis or diverticulosis, and this is the indication for surgery in 0.5 to 6 per-

In this situation emergency barium enema is truly essential despite the impossibility of adequate preparation of the bowel. If other causes of massive gastrointestinal hemorrhage have been eliminated by the preceding diagnostic studies, then the finding of colonic pathology, especially diverticular disease, on

TABLE XI
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
DIAGNOSTIC FEATURES OF MASSIVE HEMORRHAGE

<i>Symptoms</i>	<i>Signs</i>	<i>Laboratory Data</i>
Bright red rectal bleeding	Shock	WBC normal
	Tachycardia	HCT ▼
Weakness	▼ BP	Urine normal
	Afebrile	Gastric contents normal
	Negative abdominal exam	Bleeding studies normal

cent of patients undergoing operations for this disease.^{10,16,27} As with upper gastrointestinal bleeding, massive hemorrhage must be defined and the same criteria probably apply. Basically, massive bleeding has been stated to represent a depletion of the circulating red cell mass to 60 percent or less of normal.²³ From a practical point of view this implies the necessity of administration of 2500-3000 ml. of whole blood every 24 hours over a period of two days in order to maintain stable vital signs and a stable hemoglobin level.^{3,24} The primary and often the only symptom of this emergency is massive rectal bleeding which is bright red in character. Physical examination may be equally unrewarding except for the changes associated with acute, severe blood loss. The diagnosis must, therefore, depend to a large extent upon ancillary diagnostic procedures. The insertion of a nasogastric tube will eliminate the esophagus, stomach and probably the duodenum as sources of hemorrhage. Proctosigmoidoscopy usually reveals only bright red blood, but may discover a polyp, a cancer or evidence of ulcerative colitis. Routine blood studies are not helpful except for following the course of the hemorrhage with frequent hematocrit determinations. The integrity of the coagulation mechanisms must be tested with bleeding time, clotting time, prothrombin time and platelet count.

barium enema examination tends to confirm the diagnosis of massive bleeding from the lower gastrointestinal tract. However, despite these studies, the etiology may remain enigmatic in 27-40 percent of cases.^{19,20}

Since the diagnostic nature of each category of emergent disease of the colon has been considered it would seem appropriate to emphasize certain studies which should be common to all groups (Table XII). It

TABLE XII
SURGICAL EMERGENCIES OF THE LOWER G. I. TRACT
SCREENING LABORATORY PROCEDURES

Hemogram
Urinalysis
BUN
Serum electrolytes
Electrocardiogram
Chest x-ray

must be conceded that in this situation a complete diagnostic work-up is not always feasible. However, the geriatric nature of these cases makes certain screening procedures valuable since associated common degenerative diseases should be evaluated. Blood urea nitrogen determination may reflect a change associated with the acute process, but will also indicate the renal status of the patient. The serum electrolyte values serve a similar function in evaluating the metabolic situation of the patient. An elec-

trocardiogram provides essential information regarding cardiovascular function, and a routine chest x-ray will allow for the assessment of any associated pulmonary disease. These basic laboratory data, in addition to the hemogram and urinalysis, should be available whenever feasible, not only for evaluation of the over-all physiologic background of the patient, but also as a base line against which postoperative changes may be compared.

Treatment

It is not within the scope of this discussion to explore all of the ramifications of the special treatment of each emergency situation. The title "Surgical Emergencies of the Lower Gastrointestinal Tract" suggests that the treatment is surgical in every case. This implication should be qualified. Operation is rarely so urgent that blood, fluid and electrolyte losses cannot first be corrected. Mechanical obstruction requires mechanical relief, but time may frequently be gained in selected cases by intestinal intubation from either above or below. Indeed, sigmoid volvulus and intussusception provide two examples of colonic obstruction which can frequently be cured without operative intervention, at least in the acute phase. Whereas acute appendicitis is usually an indication for surgery, such is not immutably the case and the other inflammatory lesions are frequently best treated without operation. Massive hemorrhage must be controlled, but certainly a trial of conservative management is implied even in the definition of this emergency, and such treatment will usually be successful.^{5,20} Thus, the only truly and invariably operative emergency is perforation, and even this is confined to free perforation with generalized peritoneal contamination.

Summary

In this discussion of surgical emergencies of the colon, emphasis is placed upon the diagnostic features of these afflictions. For

this purpose, the acute manifestations of disease involving the large bowel have been grouped into four categories: Obstruction, inflammation, perforation, and hemorrhage. Each of these situations represents a surgical emergency. An etiologic diagnosis may not be possible in every case, but if the patient's illness fits into one of these categories then the fundamental decision is established. The situation represents a surgical emergency of the lower gastrointestinal tract.

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Where New Drugs Come From

In the years 1941 through 1962, the pharmaceutical industry introduced 570 basic new prescription drugs. Three-fifths of these were discovered in the United States. And of this amount, industry was responsible for the discovery of 93 per cent while government and institutional laboratories accounted for 7 per cent. Of the 15 new drugs introduced in 1962, which originated in this country, eleven were from industry sources, one originated solely from university work, and two were joint industry-university discoveries, with none coming directly from internal governmental agency research. Basic research continues to be an essential element in the total drug industry program, a larger portion of its aggregate research and development budget being directed to fundamental study than in any other industry. Research as a function of government agencies is relatively new.—Austin Smith, M.D., President, Pharmaceutical Manufacturers Associations, in letter to Honorable Carl Elliott, Chairman, House of Representatives' Select Committee on Government Research, December 20, 1963.

Carcinoma Developing in a Pre-Existing Scar

A Case Report of Carcinoma of Amputation Stump

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Carcinoma is likely to develop in scar tissue subjected to chronic irritation.

THE OCCURRENCE OF CARCINOMA in extensive burn and traumatic scars is known to exist. Cases have been recorded in the literature of carcinoma developing in lupus scar, in scars of sinuses, in scars communicating with necrotic bone, as in osteomyelitis, in scars incident to amputation of an arm or leg, in scars of x-ray burns, in scars of animal and insect bites, in vesicovaginal fistulas, in fistula-in-ano, and even in scars of operative procedures that have healed by first intention. Thick, dense scars, which are avascular and poorly nourished, do not tolerate well the repeated trauma due to pressure, irritation of clothing, scratching, etc. After a period of time, which may vary from one month³ to 47 years, (this case), the incompletely developed and poorly nourished skin overlying the scar loses its capacity to repair these minor injuries and persistent ulceration. Malignancy develops. The following is a case demonstrating carcinoma developing in a scar.

DFB (Roanoke Memorial Hospital A-9670), a 75-year-old white male had a railroad accident in 1917 that resulted in a mid-thigh amputation. He was fitted with a prosthesis. For two years preceding the present hospital admission the patient experi-

enced pain at the site of the stump and had had purulent drainage intermittently.

Past history, review of systems, and family history were not remarkable.

Physical examination revealed a well developed, well nourished, white male with his left thigh amputated. He was alert and cooperative and his pulse, respirations, temperature and blood pressure were normal. Pertinent physical findings were as follows:

Ears: The right canal contained much soft cerumen and the tympanic membranes were not visualized. Purulent material was found deep in the right canal. The left canal was occluded with cerumen. Extremities: Left midthigh amputation with breakdown of stump, with purulent foul drainage and palpable left inguinal lymph nodes. Femoral pulses were present bilaterally. Rectal: Revealed poor sphincter tone with Grade III or IV prostatic enlargement.

Laboratory Data: Urinalysis on admission revealed 40 to 50 WBC's with an occasional RBC. The blood studies showed a hemoglobin of 9.2 grams %, hematocrit of 28% WBC 6,281 with a normal differential. RBC's were slightly hyperchromic. VDRL was positive with a later repeat being reported as negative.

Biopsy of the granulation tissue of the stump revealed a well differentiated squamous cell carcinoma mixed with chronic inflammation. Culture of the left stump grew out E. Coli and Staphylococcus coagulase negative and of the right ear Staphylococcus aureus.

Chest x-ray on admission revealed no evidence of pulmonary disease. An x-ray of the stump revealed demineralization of the distal end of the bone with infection involving the

From Department of Surgery, Roanoke Memorial Hospitals, Roanoke, Virginia.

soft tissue and bone. An intravenous pyelogram revealed no opaque material in the kidney or bladder in one hour and 20 minutes. Barium enema revealed no evidence of a lesion. G. I. series revealed a fairly large hiatal hernia. There was clear reflux in the terminal esophagus. Electrocardiogram showed left ventricular hypertrophy.

Hospital Course: The Foley catheter was inserted and 300 cc. of cloudy urine obtained. The following day the patient had gross hematuria for about 24 hours which ended spontaneously. Erythromycin ointment was applied to the right external auditory canal for the Staphylococcus infection. The patient was isolated.

On 9/6/63 the patient had a high thigh amputation with dissection of the inguinal lymph nodes on the left. Pathological report revealed squamous cell carcinoma of the distal portion of the amputated stump. The report of the twelve lymph nodes examined revealed hyperplasia. The patient's post-operative course was uneventful. The patient required blood transfusions before the surgical procedure. On 9/18/63, under spinal anesthesia, the patient had a transurethral resection of the prostate and again his postoperative course was uneventful. Bone marrow specimen was obtained to test for the persistent anemia and he was again transfused. It was felt that the anemia was most likely due to chronic impaired renal function with a high BUN. The patient was discharged on his 44th hospital day.

Reports from the literature probably do not represent the true incidence of carcinoma in a scar possibly because all of us know it occurs and is seldom reported. Among 25 cases of carcinoma of the hand reported by Mason,⁸ seven were Marjolin's ulcers and eight were due to Roentgen dermatitis. Threves and Pack,¹³ reported 34 cases of carcinoma of the scar. They further reported that at Memorial Hospital from 1917 through 1929, 2% of all epidermoid carcinomas originated in the skin which had been subjected to thermal injuries and 0.3% of all were basal cell carcinomas. Schrek,¹⁰

in an analysis of cases from Pondville and Huntington Memorial Hospital, found that 2.8% of the tumors and 18% of all tumors in the scalp, trunk, legs and arms developed in pre-existing scars of burns, lacerations, surgical operative incisions and ulcerations. Conway and Hayes,³ report that between 10 and 20% of cancers of extremities arise in burn scars. The high percentage indicates that the scar tissue of the previous injury is an important factor in the origin of cancer.

Cancers developed on the basis of burn scars are usually either epidermoid or basal cell although sarcomas have been reported.⁶ Cancers developing in burn scars are often multiple if extensive cicatrization exists. By grading cancers according to their malignancy, Threves and Pack found all the epidermoid carcinomas to be squamous cell, Grades I and II, well differentiated radio-resistant, adult neoplasms. Inflammatory phenomena are present in variable degrees. The case reported here corresponds to the findings of Threves and Pack.

The connective scar tissue forms a protective barrier against metastasis. When metastases do occur, they are histologically similar to the primary tumor. These seldom metastasize beyond the regional lymph nodes. Visceral metastasis are even more rare. Threves and Pack reported only one example of visceral metastasis. The location of the primary tumor determines the visceral metastases. If visceral metastases do occur, lesions of the lower extremities disseminate to the iliac, pelvic, and the lumbar nodes and to the liver. Carcinoma developing in scars of the upper extremities, metastasizes to the pleura, lungs, heart and kidneys. Even when the carcinoma is of long duration, the regional lymph nodes are usually free of metastasis. The lateness of the metastasis and the slow growth of the tumor is due to the environment of the scar tissue and the differentiation of the neoplasm.

Summary

A case report of well differentiated squa-

mous cell carcinoma arising from a pre-existing scar tissue of amputation stump is presented.

The essential cause of carcinoma remains unknown although acute and chronic trauma seem to precede the development of carcinomas in scars.

The reported incidence of carcinoma developing in scar tissues is between 2 and 3% of all skin cancer.

Malignant tumors arising in scar tissue extend and invade surrounding tissue more slowly than malignant tumors not arising in scar tissue. Distant metastases appear less often and later than in the skin cancer occurring in other locations.

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The Drug That Failed

Nobody has yet determined how to give an important new drug a certificate of trustworthiness so far as the human embryo is concerned. At present the only sure way of finding out whether a drug will deform a human embryo is to give it to women in early pregnancy and then study the incidence of malformation in their offspring—that is, a deliberately arranged prospective study. Sometimes we forget that drugs have always been tested for their effect on mammalian development. Before thalidomide they were tested by administering them not to pregnant rodents but to pregnant women, and fortunately until thalidomide no drug apparently failed the test.—Editorial in *British Medical Journal*, January 25, 1964.

Tietze's Syndrome

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Three cases of this unusual syndrome are presented. The treatment and the cause of the condition are discussed.

THE SYNDROME which bears his name was first described by Tietze in 1921. As late as 1950, only one case of this disease had appeared in the American literature. In his review of the literature in 1956, Kayser¹ reported a total of 159 cases. Most of these had been reported in the European literature.

In his original description Tietze defined the disorder as a tender non-suppurative swelling of one or more costal cartilages. Also, in the original review he stated that the sternoclavicular joint had been involved in one of his cases. He operated on some of these cases and noted that in most of them the costal cartilages were knuckled forward, but this was not always true since at least one of his patients had typical pain but at surgery no knuckling was seen. He attempted to explain the process and implied that tuberculosis and malnutrition were the causes. Almost all of his patients fit these categories. Wepler² (1954) agreed with the idea that malnutrition was a cause. He felt that in malnutrition the structure of the anterior rib is weakened and a bending at a point of minute fracture produces the pain.

Case Presentations

We offer for presentation three cases of Tietze's syndrome which were treated by us

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at the Fairfax Hospital. All three patients were treated by excision of the involved costal cartilage.

Case No. 1: This is a 20-year-old white male with a history of the sudden onset of swelling and pain in the left anterior chest wall beginning two weeks prior to admission. This was in association with fever. On physical examination, there was a protrusion in the region of the fourth left costal cartilage. There was tenderness elicited on palpation of the area. At the time of surgery the fourth left cartilage was found to be knuckled forward and was resected. The pathologic report showed normal cartilage.

The patient was asymptomatic when seen a year postoperatively.

Case No. II: A 40-year-old white female had complained of intermittent pain and swelling in the right anterior chest for four years prior to admission. The pain and swelling had increased in the two weeks prior to admission, and on physical examination at this time a 2 cm. mass was palpable at the level of the second right costosternal junction.

Before the last episode she had received cortisone injections and diathermy during exacerbations. This time excision was carried out when at surgery the second right costal cartilage was found to be knuckled anteriorly. The pathologist reported normal hyaline cartilage.

Case No. III: A 15-year-old white male presented with a mass in the region of the third right costal cartilage. It has been present for some weeks. The pain was not localized, but radiated to the right shoulder and arm. At surgery the classical changes were seen. Excision was done and the patient was asymptomatic 15 months postoperatively.

Pathogenesis

In reviewing the anatomy of the costal cartilages, one can learn much concerning the etiology of the disease if at the same time he evaluates the incidence of the disease by location.

The incidence is dependent upon the presence of the intra-articular sternocostal ligament. This is a fibrocartilaginous structure which runs through the joint at the junction of the second costal cartilage and the junction of the manubrium and body of the sternum. This is the only area in which this structure is constant. The structure is present in the third costosternal junction in 20% of cadavers and in 10% at the fourth junction. The ligament is present less often at other areas and so is the disease. The percentage of presence of the ligament in given areas corresponds quite well to the incidence of involvement by Tietze's disease in different costosternal areas. It, therefore, is postulated that with involvement of this ligament by minute trauma, rheumatoid disease, or other process, buckling of the cartilage occurs.

Motulsky³ in 1953 presented two cases of Tietze's syndrome in persons having pulmonary Hodgkin's disease. It was his feeling that the problems with the costal cartilage did not result from involvement by the Hodgkin's disease, but was aggravated by it with cough, etc. Of interest, Jacobs and Connors⁴ (1959) described a patient with paroxysmal tachycardia who also had Tietze's syndrome. The relationship is obscure, but upon resection of the cartilage the tachycardia remitted not to return.

An interesting relationship exists between upper respiratory infections and the onset of the chest pain associated with this process. Frequently chronic coughing or sneezing precedes the onset of pain.

Pathologic Process

Much has been written concerning the pathologic process. Wehrmacher⁵ (1955) described thickening of the perichondrium

muscle, fascia, and ligaments surrounding the affected costosternal junction and an irregularly formed, enlarged cartilage resembling a tumor. He does state that in some cases no such changes were noted save for the knuckled cartilage at the time of resection. In most cases described in the literature the knuckling is all that is seen.

Incidence and Manner of Presentation

This process involves both sexes and at ages between 13 and 60 years. The time of highest incidence is during the young adult years. The upper ribs are most commonly affected with the second costosternal junction involved in 60% of cases. With involvement of other cartilages the second may also be involved in 14% of cases.

The swelling is fusiform and may present to as far as 3 cm. above the level of the chest wall. This mass may present without pain or notice and be discovered during routine physical examinations. In most cases, however, pain and swelling present together. It usually remains localized, but may be referred to the jaw or shoulder and arm. There may be remissions and exacerbations of the pain and it may be aggravated by any stress placed on the chest wall. Ausubel⁶ (1959) reports a case which remitted and recurred several times over an eight-year period. On careful questioning, one may elicit the onset to have followed an upper respiratory infection and that after much coughing or sneezing the mass and tenderness appeared. Recumbency may aggravate the sensation. On physical examination one finds no evidence of inflammation in the overlying skin or subcutaneous tissues. There is a marked and definite prominence of the involved cartilage. There are no constitutional symptoms.

Laboratory studies are of no value here. Many studies including calcium, phosphorus, and alkaline phosphatase determinations, have not been abnormal in cases of pure Tietze's disease. X-ray is of value in ruling out the presence of soft tissue swelling, a sign of osteochondritis, or the presence of some malignant bone or cartilage tumors.

Differential Diagnosis

Benign conditions include:

1. Chest deformity.
2. Callus bone from rib fracture.
3. Contusion or inflammation of soft tissues.
4. Mumps, producing anterior chest wall edema.
5. Mondor's syndrome.
6. Intercostal neuritis.
7. Costochondral separation.
8. Angina pectoris.
9. Pain of pleuritic origin.
10. Upper abdominal processes. Peptic ulcer, gastritis, and hiatal hernia.

Malignant:

1. Most common painful tumors of the chest wall are metastatic carcinoma, (especially from breast, kidney, thyroid, bronchus, lung and prostate).⁷
2. Malignant lesions primary in chest wall.
3. Multiple myeloma (but is usually not limited to a single rib).

Treatment

Descriptions of treatment run from the local injection of hydrocortisone to the excision of the involved cartilage. The injection of cortisone may be beneficial but one still has the concern regarding a diagnosis. An excision of the tumor mass gives the diagnosis, plus as Beck and Berkheiser,⁸ (1954), Nix and Albert⁹ (1955) point out, patients who had excisions were symptom-free thereafter. It should be stated, however, that the presence of pain without swelling does not justify surgical excision. Ideally, one might observe a patient with typical symptoms for two to three weeks before

excising the cartilage. If symptoms do not abate, surgery is indicated.¹⁰

Summary and Conclusions

A review of the pathogenesis of Tietze's syndrome would indicate contraction of the intra-articular costosternal ligament as a cause of the disease. Presenting signs and symptoms are given with emphasis placed on a careful history. The differential diagnosis is important in relationship to the possible presence of malignancy. Excision of the involved cartilage will establish the diagnosis and cure the disease.

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Seventeenth Century Comparative Medicine and Its Significance in Virginia History

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This survey of the medicine, health, and certain other characteristics of seventeenth century English and Indians demonstrates the importance of the medical side of the history of nations.

THE EARLY SEVENTEENTH CENTURY saw bands of Englishmen invading and settling the river valleys of Virginia just as their Anglo-Saxon ancestors had invaded the river valleys of Roman Britain a millenium before. The Saxons had been barbarians conquering a civilized country. In Virginia the situation was reversed; the invaders we consider civilized, the natives neolithic savages. The gulf between the two races should have been so great that only contrasts would be evident and the success of the possessors of the superior culture inevitable. That this is debatable makes the comparison of Englishman and Indian physically, mentally, and medically an exciting chapter in the history of medicine. Undoubtedly, the white men who arrived in their small-tonnage ocean liners had the advantage of relatively sophisticated political and economic systems. They had other advantages which will be demonstrated later, but if we will study the two peoples in detail, especially from a medical point of view, we may marvel that the English did win here, after all.

The English were little people. Probably few were taller than 5'6". Their late queen,

Elizabeth, had been tiny as evidenced by articles of her clothing which are still preserved. Her important servant and minister, Cecil, had been practically a dwarf. Their future King Charles I was destined to be but little over five feet tall despite his regal appearance. Raleigh was among the few who were distinguished by height. The small stature of Captain John Smith and his fellows may be deduced from his awe at the size of the Susquehannock Indians whom he met.¹ These "giants" were unlikely to have been any larger than the tallest scientifically measured Amerinds, the Cheyenne, who averaged about six feet.² By another inference we may imagine that the early colonists were about the same size as the Powhatans among whom they located, since the height of the latter created no particular comment. We large Americans would likely never have endured the crowding on the *Susan Constant*; a six-footer is miserable even in a modern bus or plane.

It may be judged from the way the English expanded over the globe that they had considerable endurance despite their small size. We must assume that those men accepted for colony duty were a picked lot. The men at Roanoke Island were healthy. Those at Jamestown would have been had they not been plagued with typhoid.³ The fact that these men stayed well on long voyages in packed ships speaks well for the discipline of the captains and the organization of the promoters. Perhaps, like Hawkins, Newport prevented scurvy by means of limes.

If these men were healthy, the generality of their countrymen were not. Life was short. All the elements of living seemed to

be against them, beginning even with food. Ever since Hippocrates physicians had been interested in diet, or regimen. Much was written on the subject, much of it nonsensical.⁴ The fact was that the diet of the population was hard to control. There was much scurvy.⁵ Fresh vegetables were naturally uncommon in winter. In a day of no refrigeration fresh meats tainted quickly. Besides the diseases of nutrition there were those of exposure. The houses were cold and damp. "Gout", a term which probably included all the various arthritides, was very common. Influenza and pneumonia were evidently prevalent.⁶ Tuberculosis afflicted all classes. The damp and the cold discouraged bathing. Indeed, people were generally indifferent to filth. Vermin in the beds, clothes, and wigs were the rule. Rats abounded. Neglect of garbage and sewage in the cities was notorious. When overcrowding was combined with such ignorance of sanitation, what we know as the diseases of filth were inevitable. Typhus or "gaol fever" kept the prison populations down; the promising Dr. Andrew Boord died ignominiously of this in a jail. Relapsing fever must have been fairly common. Dysentery was frequently noted. Probably this was really food poisoning, though some true dysentery was apparently imported by travelers to the tropics.⁷ Typhoid hit all classes, even Prince Henry, potentially the best of the Stuarts.⁸

Other diseases added their terrors. Smallpox raged every year. The great pox (syphilis) had been present constantly since the terrible pandemic of 1513; it was a more virulent disease then than now if we may believe what we read in the old accounts. To all these ailments were added such minor killers as measles, mumps, and whooping cough ("chin cough") which we still know. The English of 1600 experienced, then, the effects of all the contagious diseases though they knew the names of few and the cause of none. Generations of European fighting had thoroughly disseminated the diseases. They could only fight them by means of

their natural resistance. This immunity, which kept the mortality down to a relatively few percentage points, plus the phenomenon of the carrier state, formed a tremendous asset, one of the truly great means of conquest of which the Virginia Company had no understanding, despite the hints in Hariot's report, as we shall see.

Considering their health liabilities, it is a wonder that any of the English lived long enough to help conquer America. It is strange, in view of their short lives and the ease of death, that they had the courage to make the attempt. Their will to expand must be credited both to overpopulation and to a buoyant intellectual verve and drive which they had derived from their renaissance. The world marvels at the English leaders of the time. We like to regard them brilliant free men, free thinkers, unhindered by the chains of medieval thought, of an old religion, and of pagan superstitions.

That they were brilliant and determined is evident. But those unhampered by traditional thought are hard to find. Raleigh may have been one; he was feared and distrusted for his tendency to be a doubter. The matter-of-fact commonsense of such men as Captain John Smith may have been more evident than real; it must be viewed in the context of the credulity of such great thinkers as Bacon and Boyle. The former put in print the opinion that anointing the weapon would help cure the wound it had made.⁹ The latter believed that the touch of a corpse's hand would cure scrofula.¹⁰ His fellow-countrymen believed that the King's touch was more effective; even as late as the reign of Charles II almost 100,000 people sought this cure.¹¹ Gentle folk and yeomen alike were burdened by superstition and an unbelievable gullibility, a childlike belief in magic. In Devonshire a child with whooping cough might have been forced to crawl through a bramble bush in the hope that the briars would catch the cough from the child.¹² Sir Kenelm Digby successfully promoted the magic of his sympathy powder (recrystallized blue

vitriol).¹³ Mirrors were covered in sick rooms to keep the patient from seeing himself and thus dangerously projecting his soul out of his body.¹⁴

A people so thoroughly impressed by the possibilities of magic necessarily believed in the purveyors of magic. Astrologers were in high repute; Queen Elizabeth thought well of Doctor Dee. No Indian savage believed in the Devil more fervently than did our Englishman. Witches and their evil ways derived from the Devil were thought to be common and a public menace. Demented women were suspected of being witches, tried farcically, and burned at the stake by the thousand not only in England but in all Europe in the sixteenth and seventeenth centuries. King James I, Virginia's first English monarch, considered himself an expert on the subject of witches. In his *Demology* he estimated that there were twenty female to every male witch since women are frailer and more easily converted to the Devil's work.¹⁵ He asserted that any who denied the power of the Devil denied the power of God.¹⁶ He grimly prescribed death by fire for all witches.¹⁷

That this was not just literary nonsense is indicated by the case of Widow Sutton and her daughter Mary. They were hog-keepers who were generally disliked for their bad dispositions. At a time when Jamestown was about five years old they were alleged to have taken a spite against a prosperous farmer named Engers. As a result, his cattle died mysteriously, his horses shied repeatedly, his man became very ill and during his illness saw Mary Sutton come through his window; she tried to entice him to evil. After this, Enger's son chased the two women, called them witches, and threw pebbles at them. This annoyed the Widow Sutton and she was heard to utter some imprecations. A few days later the boy sickened and died. Then, on the advice of a visiting gentleman, Engers "violently apprehended" Widow Sutton, had her ducked, and when she was seen to float instead of

sink as an honest person should, he had her examined for witch marks. When these were obligingly found, Engers had the woman ducked again. She then stood trial, was found guilty of witchcraft, and both she and her daughter were promptly executed. The striking point here is that a score of responsible Englishmen, including landowner, well-to-do visitor, prosecutor, judge, jury, all believed strongly enough in witchcraft to commit the judicial murder of these probably demented women.¹⁸

From the number of witch diagnoses it will be seen that mental illness was common then too. Relatively few of the insane were considered witches, of course, but most were treated brutally. They were beaten to drive out the Devil and they were chained, often naked, in noisome asylums. As a result, the asylum St. Mary of Bethlehem added "bedlam" to our language. Probably the incidence of insanity then was similar to ours today, but with the brutality and poor care the mad did not live long. Not many insane are listed in the documents of early Virginia. The fellow who reportedly cannibalized his wife in 1610 may have been so afflicted.¹⁹ Blanton was able to locate several cases of suicide in the early days of the colony.²⁰

Where the white man employed brutal treatment for the insane the Indian tried his wild incantations which were probably more effective. But the English had their own brand of sophisticated incantations which were based on the contents of the Prayer Book. They were the possessors of surely the most beautiful religion in the world, a religion the fundamental teachings of which stood in sharp contrast to the English brutality. Through many centuries a group of incantations had been developed to cope with health problems. Women who had recently given birth were "churched", exorcised if you please. The Deity was frequently begged in elaborate ritual to avert pestilence. In 1640 King Charles set aside July 8 as a day of prayer to halt the plague and other judgments of God, and

ordered published a *Forme of Prayer* to be used on that day. The forme, with its pertinent order of service including psalms, epistles, and prayers ran to nearly a hundred small quarto pages.²¹

Men turned to God in terror. Illness was almost as supernatural to them as it was to the Indians. Even after two millenia of Western medicine physicians offered more solace than real aid. They observed patients, often quite superficially, made "diagnoses" by feeling the pulse and looking learnedly at urine samples, made shrewd guesses as to the prognoses, and gave folkloristic prescriptions. They could do no better. Their knowledge of the basic sciences of anatomy, physiology, chemistry, and so on, was far too limited to have any effect on practice. Medical students still memorized the works of such ancients as Hippocrates, Galen, Pliny, and Celsus.

There were stirrings, especially on the Continent. Unquestionably our present scientific medicine dates back to the few doubting and observant men of that period. Vesalius and Fabricius and Fracastorius had worked in Italy in the sixteenth century. William Harvey had absorbed their thought to Padua and had come home to England where he was destined to father physiology by proving experimentally that the blood circulates. The seventeenth century also knew Francis Bacon and Robert Boyle both of whom made essential contributions to science despite their own profound credulity. It must be emphasized that the telling influence of these men did not help the sick until many generations had passed.

The care of the English sick was officially and unofficially divided among many categories of healers. Supreme were the physicians who were especially powerful in London because of the authority there of the College of Physicians. They were legally in charge of all health practices. They controlled the surgeons whom they prohibited from prescribing internal medicines. The surgeons could only cut, sew, and treat ulcers. The physicians also by law super-

vised the apothecaries, although this was more difficult than restraining the surgeons. The physicians and surgeons apparently were congenial; the surgeons endured their lowly estate. However, both had many dissensions with the apothecaries who did not hesitate to practice and prescribe as well as dispense. This particularly infuriated the physicians who retaliated with claims that the apothecaries committed all manner of frauds including the substitution of inferior drugs in prescriptions. One physician, for instance, was greatly disturbed by the proof that apothecaries had made such substitutions as "Sheep's Lungs for Fox Lungs, Bone of Oxe Heart for that of Stag's Heart."²² It would be difficult to underestimate our indifference to such substitutions, but certainly a principle was involved.

Just below the level of respectability were the "empyricks" ("quacking empyricks" to their detractors) who treated patients quietly and less expensively than the physicians. Boyle did not hesitate to advise and help some of these.²³ More unpraiseworthy were the mountebanks, itinerant quacks who set up their stages in the market places and peddled their nostrums with an outrageous flair. Truth to tell, the preparations which they peddled were often the same as those prescribed by the physicians and sold by the apothecaries.²⁴ Physicians, surgeons, and apothecaries all joined in condemning these people who nevertheless served a great segment of the public.

Finally, of course, there were the midwives who made up an important group. Practically all deliveries were attended by them; seldom did a physician or surgeon approach a laboring woman. Despite their secure status these women had to be circumspect. It was easy for them to be accused of witchcraft, of doing devilish things with the bodies of stillborn babies. Both church and state watched them warily and imposed oaths of proper conduct.²⁵ As early as 1626 a midwife named Wright was accused of witchcraft in colonial Virginia.²⁶

Goodwife Wright was one of the earliest midwives in America. There had been little need for such in the early days of the colony. Two surgeons comprised the entire medical staff of the first expedition in 1607; they were busy. With the first supply there came a physician, Dr. Walter Russell, another surgeon and two apothecaries. Thus, from the first year three of the then-chief branches of the healing art were represented. Later a midwife was present. There was not enough profit for the quacks and their mass-selling methods to appear here in the early days. We might say that the empyricks were represented by those numerous planters who bought and studied medical books and treated their own families and slaves.

Because of the influence of the physicians and the traditions of centuries all people, professional and non-professional, believed in the humoral theory of disease. Physicians have always felt the need to justify their treatments according to some theory or system of thought. Ever since the day of the Greeks the humoral hypothesis had been accepted dogma in Western lands. It had recognized four humors, blood, phlegm, black bile, and yellow bile. In health these humors were assumed to be in balance, in sickness, out of balance. One seventeenth century non-professional writer expressed it thus:

"All diseases take their beginning of a surfeit of one kind or other, so they all finish in a consumption called death. . . . and their variations are from the several complexions and temperatures of men, and their mixture as sanguine, choller, melancholy, flegmatic."²⁷

To make the diagnosis, treatment, and theory as complicated as possible the qualities of heat, cold, dryness, and moisture were thrown in as additional variables. As an illustration, we may note how it all worked out in the notion called the "Theory of Defluxions." The humor phlegm was involved. According to this idea, in certain

diseases the patient possessed a frigid stomach and an excessively hot liver. This deplorable situation caused a vapor to rise to the naturally cold brain with a result that phlegm, or catarrh, would drop back down into the body causing all manner of ailments from apoplexy to dropsy.²⁸ Such involved hypotheses as this, evolved by armchair physicians and philosophers through the centuries, could be used to justify all manner of complicated treatments, treatments designed to correct the imbalance of the humors and improve the qualities. These hypotheses, however sophisticated and intellectual they may have seemed, were no more productive of results to sick folk than the primitive ideas of the Indians. They backed up the same general treatments, as we shall see.

Some treatments were simple. Conserve of violets was considered good for excess of yellow choler, conserve of borage for that of black choler (melancholy).²⁹ If both liver and stomach were thought to be hot, nothing could beat conserve of strawberries.³⁰ Simpler in purpose yet was the search for a universal medicine, a search which certainly emphasized the belief of some in the essential oneness of disease.³¹ Naturally, physicians who would have been eliminated by such a discovery were not enthusiastic.

Prescribing was more often a very complicated problem. The above-mentioned bodily qualities were the qualities of medicine too. Pepper is hot to the taste, therefore a heating medicine. Mint is, conversely, a cooling one. Thus, according to the Doctrine of Contraries you would use the former to expel cold from the body and the latter heat. There were other considerations. There was a Doctrine of Similars, for instance; like cures like (perhaps you called it the Doctrine of Signatures if you wanted to be obscure). The yellow powder of rhubarb root was used in the treatment of yellow jaundice for centuries.³² Snake root was good for snake bite because its roots resemble snakes.

There were other qualities and properties of medicines. Classification of all these became a complicated task, so complicated, so foreign to our present system of treatment that Table 1 has been set up as an example. It is an epitome of one surgeon's system, that of Thomas Gale.³³ Since the medications in this system are listed in a surgical treatise most of them were designed for external use. But physicians used the same

a pre-Linnaean age of confusion about plants. Gale's book surely shows us clearly that seventeenth century practice was a system of botanic medicine in which traditional folkloristic usages had been forced into an artificial system. It came very close to the magical herb practice of primitive man.

In actual practice medicines of various qualities were mixed to form complicated

TABLE I
SEVENTEENTH CENTURY DRUGS AND THEIR USAGE

<i>Chief Quality of Medicine</i>	<i>Purpose</i>	<i>Examples</i>
Repercussive	To repel and drive back, to staye the fluxe of humours in their beginning.	Water, wormwood, alum, crocus tragacanth, oyle of roses, white of eggs, and no less than fifty others.
Attractive	To draw out, as when any venomous matter is in the body, including both arrowheads and the superfluous moisture of dropsy.	Cantharides, mustard, turpentine, and a score of others.
Abstersives	Cleanse wounds or filthy ulcers.	Rose, plantain, harteshorn, horehound, and a score more.
Resolving, or diaphoretic	Resolve humors impacted in any part.	Water, wine, wormwood, myrrh, frankincense, and nearly forty others.
Mollificative	To make soft bodies which are scirrhus and hard.	Butter, resins, and many others.
Suppurative	To bring boils to a head	Althea, butter, tallow, roots of brionie, sangreke, etc.
Caustic	Remove filthiness in ulcers and superfluous flesh (granulations?)	Aqua mercurialis, alum, etc.
Anodynes	Relieve pain	Dill, wormwood, hyoscyamus, popye, etc.
Incarnative	Engender flesh (cause granulations?)	Frankincense, aloes, storax, etc.
Cicatricial	Cauterize an ulcer	Aloes, alum, dragon's blood, etc.
Conglutinative	Glue together lips of a wound	Plantain, cobwebs, aloes, pitch etc.

drugs the same way internally. A few of them still find some favor. However, with most of the nearly two hundred herbs recommended the action was strictly imaginary and based on folklore. Very likely a given plant name had a different meaning in different parts of England. Trying to identify plants listed or discussed in old herbals and treatises from the common names given, from the vague descriptions and the stylized illustrations is usually futile. Some well-known plants like betony and wormwood which date back to Anglo-Saxon times are no problem.³⁴ Beyond these and a few others doubtless Gale himself would have been able to identify few of the plants he listed. Physicians and surgeons relied on apothecaries who probably often substituted, fraudulently or ignorantly in

prescriptions to satisfy the presumed need of a particular case. Most of Gale's book is comprised of more than 150 pages of prescriptions detailing the various combinations and permutations of all those herbs and their qualities. It required a high degree of application and a keen memory to carry on such a practice. Prescriptions in some hands ran to dozens of drugs, even sixty or seventy, although few of Gale's required more than ten. However, few valid specifics were known then; mercury inunction for syphilis, lime juice for scurvy, and Jesuit's bark for "fever" may be mentioned, but no others come immediately to mind.

Indeed, much of the craft of the seventeenth-century physician smacked of pure magic. To him, for instance, astrology was a science. He was careful to consult the

heavenly bodies and the almanacs; patients appreciated such concern. He was often careful to let blood only at certain times. "Also when he shall be let blood look that the moon be in sign attractive, as Aries, Leo, or Sagittarius." The star conscious had other rules, such as, "A laxative must be taken when the moon is in Cancer." "If ye will give a digestive medicine to dose any humors give it when the moon is in digestive sign, as in Gemini, Libra, or Aqarius."³⁵ All this could be as complicated as prescribing. And wherein is it more significant than the little prayers the Indian said over his herbs?

In contrast to this the actual art of the surgeon had much more to offer; his patient was much more likely to receive definitive treatment by means of the surgeon's knife if not his drugs. Amputation, hernia repair, lithotomy were all known and practiced. There was considerable deftness in the treatment of wounds. The Paré who cut has more appeal to us than the Gale who anointed.

(To be continued in August issue)

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Undetected Kidney Disease

A simple, sensitive, screening test for spotting unsuspected kidney disease was described by Boston researchers in the May 18th Journal of the American Medical Association.

The telltale sign of kidney disease is increased activity of the enzyme lactic dehydrogenase (LDH) determined by urinalysis, according to the report by Drs. Warren E. C. Wacker, Lionel E. Dorfman and Elias Amador. In most patients with potentially fatal kidney diseases the urinary LDH activity is significantly elevated.

The most common kidney disease is chronic pyelonephritis. However, despite its prevalence, the disease remains undetected in 75 to 80 per cent of cases because symptoms are lacking or unusual, plus the fact that a definite laboratory sign often appears only intermittently. Therefore, progressive kidney failure too frequently results from a disease potentially amenable to drug therapy or surgery.

Since LDH activity is elevated before

symptoms appear, the test permits diagnosis and treatment of the disease before severe kidney damage occurs.

In a study of 90 patients it was found that elevations of LDH activity correlated well with the severity of the disease. LDH activity proved to be consistently normal in benign high blood pressure but raised in patients with high blood pressure resulting from kidney diseases. For this reason, the LDH measurement should be particularly useful in distinguishing one type of disease from the other.

The test also could be used to detect progressive kidney disease which often complicates diabetes and could lead to better management of these patients.

The three physicians, affiliated with Harvard Medical School and Peter Bent Brigham Hospital, previously reported that the LDH activity level could be used as a screening test for malignant tumors of the urinary tract.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Appalachian Regional Development Act of 1964

The President's Appalachian Regional Development Act of 1964 is covered by House Bills 11065 and 11066, now pending in Congress. This project has been in the planning stage since late 1963, and several conferences have taken place between representatives of the Federal government and the states involved. In Virginia the Departments of Education, Highways, Employment, Industrial and Economic Development, Welfare, and Health have been the major participants, and the Virginia Health Department has submitted a detailed plan for the expansion of public health services for this area.

The Appalachian area includes portions of the States of Virginia, West Virginia, Kentucky, North Carolina, Tennessee, Alabama, Georgia, Maryland, Pennsylvania, and Ohio. Geographically in Virginia it includes twenty-one counties, beginning as far north as Highland County. In Virginia, however, there are some areas of very considerable prosperity in this region, while others are relatively depressed. Therefore, for planning purposes the following seven counties have been used: Lee, Scott, Buchanan, Tazewell, Dickenson, Russell, and Wise. As far as health services are concerned, Virginia is most fortunate in having the basic framework of established local health departments, from which public health services can be expanded to meet the needs.

By applying currently accepted standards, none of the seven southwest Virginia counties have sufficient physicians, nurses, dentists, or other health personnel. For example, there is only one M.D. for every 5,000 people, as compared to the State average of one to approximately 830, and the national

average of one for approximately 700. Additional health personnel need encouragement to locate in the area, and those already located there need support in the management of patients. We believe that many of the public health needs of the area can be alleviated through the development of general medical clinics, home nursing care programs, and the provision of additional financial assistance for required hospitalization.

Environmental health needs are of real importance. A preliminary survey of the 106 communities in the seven-county area revealed that only twelve have approved sewage treatment facilities. For example, eight communities contribute all or a portion of their sewer wastes directly to the Big Sandy River; twenty-four to Clinch River; eight to Guest River; and twenty-eight to Powell River. Based on conservative figures, it is estimated that at least 1,500,000 gallons of untreated sewage per day are discharged into secondary streams or directly into these four rivers.

Public water supplies are not available in thirty-nine (36.7%) of the communities. Public water supplies in the remaining sixty-seven communities vary in adequacy and degree of treatment.

Approved public refuse collection and disposal facilities are entirely lacking in 92 (86.8%) of the communities surveyed.

On May 26, 1964, a group representing health as well as other State agencies appeared before the House Committee on Public Works, which is holding hearings on the Appalachian Regional Development Act. The facts contained in previous paragraphs of this article, as regards health services and environmental health needs, were incorporated in the statement from Governor Harrison, which was read to the Committee by

Mr. Joseph G. Hamrick, Director of Industrial Development. In the belief that members of the medical profession should be cognizant of the Health Department's participation in this project and its plans for expanded services, the full text of the Health Department statement to the Committee is quoted below:

"Under Virginia State Law any combination of counties and cities may create a district health department, and the governing bodies of such counties and cities may then enter into contractual agreement with the State Department of Health for the operation of the district health department thus created.

"Through this mechanism, each of the Virginia localities within Appalachia has developed a local health department on a partnership basis with the State Department of Health. Each county and city has its own local health department with full-time clerical, public health nursing, and sanitation personnel performing the recognized basic public health services.

"For administrative effectiveness, these local county and city health departments are organized into districts, consisting of a combination of two or more counties and/or cities, serving populations in the range of 50,000 to 100,000 persons. Each district department is under the direction of a full-time public health physician, and depending on population, public health nursing and sanitation supervisory personnel.

"Public health services rendered by these various districts are supervised and coordinated by a regional director's office, to which each district director is responsible. Essentially, the various local districts in Appalachia are under the direction of the Southwest Regional Office, which is located centrally in the area. This region is directed by an experienced public health physician with the assistance of a staff of trained public health nursing, sanitation, engineering, and other auxiliary personnel. A branch laboratory which serves the region is also located in the modern public health center

which quarters the regional office. The regional office is financially and administratively a function of the Virginia State Department of Health through the Division of Local Health Services.

"The local health departments are financially and administratively a partnership function between the localities and the State Department of Health. A formula, which consists of a maximum of 45% and a minimum of 20% of the total budget, is used in deriving the amount of money that the individual county or city is requested to appropriate for the operation of the local health department. The locality's appropriation is based on its ability to pay, which, in turn, is based on the true value of taxable wealth of the locality.

"It is felt that the administrative structure described above can be easily expanded to meet immediate, as well as long-range health problems of the area. The basic health administrative structure exists; the basic funding mechanisms exist; the basic framework for the expansion of needed health services exists; the health needs are recognized, or can be identified; and the additional staffing requirements have been determined.

"For example, the basic public health programs could be expanded; private physicians could be assisted in the management of their patient; and needed hospitalization could be supported by the following action:

"Staff: In order to meet the minimum recommended staffing level of one public health nurse to each 5,000 population, a total of twenty additional staff nurses and two supervisory nurses would be needed.

"Six additional staff sanitarians should be added, and a total of ten auxiliary medical and sanitation personnel positions should be created.

"General Medical Clinics: It is proposed that additional general medical clinics be established in this area to help augment the local medical service available. A general medical clinic is very similar in purpose and

medical care capabilities to a general practitioner's office. It is designed to:

- 1. Provide preventive, diagnostic, and therapeutic medical services to the indigent and medically indigent;
- 2. Provide necessary follow-up supervision of patients discharged from hospitals; and
- 3. Coordinate medical care services in the community.

"At the clinic the patient will be seen by a qualified physician. If indicated by the physician's examination, the patient will be referred to the nearest available hospital laboratory for necessary laboratory examinations. When the diagnosis has been established, the patient will be followed at the clinic at intervals felt necessary for proper control of his disease.

"In many instances, it will be unnecessary for a patient to be seen by a physician except at infrequent intervals provided that some nursing supervision can be given in the interim. As part of his program, public health nurses will visit the patient in his home at intervals as directed by the physician. The public health nurse will be able to carry out all nursing procedures normally provided by Visiting Nurses Associations.

"The objectives of this program are:

- 1. To provide comprehensive medical supervision to eligible individuals whose medical needs can be satisfactorily met in this fashion;
- 2. To furnish better care in the home for selected types of patients than would be possible in a hospital;
- 3. To reduce the cost of illness by shortening the hospital stay or by the prevention of hospitalization or rehospitalization of selected patients who can receive comprehensive care at a lower cost in the home;

- 4. To improve utilization of hospital bed facilities; and
- 5. To expedite recovery, promote a better sense of well-being and maintain personal dignity by restoring patients to normal family living as quickly as possible.

"*Hospitalization:* Hospitalization of the indigent and medically indigent is essential for proper medical care. Unless disease states are treated adequately, it is extremely unlikely that the health of the individual can be returned to its optimum level. The present State and Local Hospitalization Program requires matching local and state funds. In any depressed area, the funds available for matching are limited.

"Local hospitals and practicing physicians should be supported in the management of patients by, insofar as possible, removing the financial barrier to indicated hospitalization.

"In conclusion, the Virginia Appalachian region is certainly not void in health and medical services but is in need of some improvement both in quantity and quality. The Commonwealth of Virginia is moving in the direction of improving these services, and this bill would augment our efforts and shorten the time it will take to solve the health problems in Appalachia."

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	May	May	Jan.- May	Jan.- May
	1964	1963	1964	1963
Brucellosis	5	0	7	0
Diphtheria	0	0	0	0
Hepatitis	46	69	268	470
Measles	4425	2156	11268	6328
Meningococcal Meningitis	8	3	34	52
Meningitis (Aseptic)	2	1	6	11
Poliomyelitis	0	1	0	1
Rabies (In Animals)	23	16	176	113
Rocky Mt. Spotted Fever	6	3	8	4
Streptococcal Infections	1032	1011	6073	5474
Tularemia	0	0	3	5
Typhoid Fever	1	1	8	4

Community Involvement in Mental Illness

As a nationwide "symptom," apathy and indifference characterize the reaction of the public to programs for the treatment of mental illness. Curiously enough this is in the face of increased appropriations from both public and private sources.

Why is this true? Is it fear, superstition, ignorance, resistance, rejection, or a failure to realize the impact of mental illness on our everyday life?

We have certainly advanced well beyond the point where attitudes toward mental illness should have a deleterious effect on the establishment of adequate mental health facilities.

We have accepted the challenge of many previously unmentionables such as tuberculosis, cancer and venereal disease. Therefore, it is hardly possible that a majority of people tend to be squeamish about mental illness and reject it by sweeping it under the rug of oblivion.

From an economic standpoint alone, no one can fail to acknowledge the loss to the nation in terms of manpower and productivity which is easily measurable by the number of victims of mental illness.

Perhaps, however, there is a vestige of guilt, fear and superstition still remaining in the minds of the public.

Possibly the situation exists because so little is known about the causes of mental disorders and their treatment.

But whatever the cause—a medieval reluctance or a medical ignorance—there must be a remedy for the symptom of apathy.

DAVIS, HIRAM W., M.D., *Commissioner, Department of Mental Hygiene and Hospitals, Richmond.*

Excerpted from Address by Hiram W. Davis, M.D., Commissioner, Department of Mental Hygiene and Hospitals at Roanoke, on May 5, 1964.

The Virginia Mental Health Study Commission is a part of a nationwide effort on the part of all states and territories to find at least some of the answers for the improvement of mental health facilities.

However, the "study approach" has given rise to certain questions as to its validity. Will the collection of data, the sampling of attitudes, the development of a "comprehensive plan" bring about the desired results of understanding and acceptance?

Many people hope that it will. Skeptics will continue to have their doubts. They will point out that these same methods have been used before without appreciable improvement in the situation.

But there is now a new factor—that of the *nationwide simultaneous* attack on the problem. In the past the states have made individual efforts toward planning. Almost invariably they have been unable to maintain a sustained drive, according to a set plan, over a long period of years. These failures have generally been due to a combination of circumstances: a "fall-off" in support as the program appeared to get underway; a change in administration and policy; introduction of new ideas of care and treatment; demands for flexibility which require alteration of the original plan; or, in far too many cases, a competition for the tax dollar.

Where do we go from here? What can the State Mental Health Study Commission do? Where will it differ from attempts which have been made in the past?

The current planning program reflects an endpoint in the growth of awareness of the problems of mental illness and retardation on a national level. In 1946, Congress began to take a real interest in the matter and in that year established the National Institute of Mental Health and authorized

grants-in-aid to assist states in developing community mental health programs. Over the years, studies were made. In 1961 a special Governor's Conference on Mental Health called for "balanced state programs featuring prevention and early treatment, extensive community based services, active treatment rather than custodial care, rehabilitation and aftercare services and specialized services for persons with conditions related to mental illness such as mental retardation, alcoholism, drug addiction, old age, etc."

A resolution was adopted by the Governors' Conference that each state develop a comprehensive master plan for coping with mental disability and promote a plan that will mobilize state and local, private and voluntary resources and stimulate greater community initiative.

In 1963, Congress appropriated \$4.2 million dollars for grants-in-aid to support comprehensive state mental health planning activities. A similar amount will be available to continue the study through June, 1965, at which time planning must be completed.

Thus, for the first time there appears to be a coordinated, all-out attack on mental illness through a planning process. Virginia along with her sister states is participating. There are no "strings" attached to the grants except that the money must be used only for planning. Each state, to qualify, was required to submit its "Plan for Planning" and, except for general guidelines, there has not been an attempt to channel these plans in a single direction or into a set pattern. There will be as many plans as there are states, and the majority of them are considerably different in their approaches to the Study. However, the goal is the same; the improvement of the mental health of the people through comprehensive mental health programs which have their roots in the community.

The plan for planning submitted by Virginia is unique in that it leans strongly

toward accumulating citizen attitudes, concepts, reactions and recommendations.

It provides for the establishment of a State Mental Health Study Commission consisting of members from various backgrounds and experience and representative of all areas of the State. This Commission became active last November with a membership of 78 including doctors, lawyers, state officials, prominent citizens and persons interested in mental health and mental retardation.

Through its Executive Committee and its staff, the Commission began the collection of information necessary for its final report. Public meetings were the first step and have already given a broad base of citizen opinion upon which to build the ultimate state comprehensive plan. The results of these meetings will be channeled back to Regional Study Groups being formed in each locality for validation, collection of additional data and opinions and the drafting of regional reports upon which the final state report will be based.

This final report will provide a comprehensive state-wide plan leading to development and strengthening of community-based programs. The plan should, among other things, develop priorities for short- and long-range state and community goals, document the need for new and expanded programs and investigate and recommend desirable and practical means for the financing of the program through use of local, state and federal funds and those available from private sources.

A succinct statement of the purpose of the Commission would be "to find out, to ascertain, to determine, to study, to learn and to evaluate the current mental health facilities in Virginia; to outline the resources available in the State, particularly in relation to specific areas or communities; to determine priorities which may validly be assigned to these needs; and finally, to arrive at a long-range effective plan for the establishment and maintenance of adequate mental health facilities with provision for

coordinating the efforts of all activities and agencies concerned over the years."

The watchword of the Commission and the national effort is "Community involvement."

We know that some communities are financially, spiritually, morally, intellectually and professionally ready to move into the development of community "Mental Health Centers." We also know that others are not now and won't be ready for many years.

How does the individual citizen feel about mental health in his community? Is there opposition to this type of work? What is the "value system" of the local community? What are the positive and negative attitudes concerning the treatment facilities in the state and in the community?

How will the individual citizen go about changing attitudes? Does he want any change? Is he satisfied with what he has? Is the school system satisfactory? The highway system? Where is the mental health and retarded work in this priority system? Is it important enough to give it higher priority? Should we all consider the financing or is that going to be left to someone else?

Along with these questions, the Commission must give due weight to the areas of training. There is a serious manpower shortage in mental health facilities which is no different from the schools, colleges, and other areas of professional need. It means little to have impressive plans for expansion of services and facilities if there are inadequate sources of personnel to implement these plans and man the facilities.

This, then, is the task of the Commission: To develop a long-range, practical, coordinated plan for the promotion of community mental health services and the improvement of those already in existence.

However, these public meetings have a two-fold purpose. Not only will they provide the Commission with needed information about attitudes, needs, resources, and desires, but they will serve to educate the people of the State in the problem of mental illness and promote an awareness of needs.

The general feeling so far, from communities concerning this mental health planning is one of interest, of curiosity, and of desire to help.

In Virginia Beach, Richmond, Roanoke and Martinsville, the participation and the depth of interest has been gratifying. All local newspapers and all local TV and radio stations were most cooperative and most accurate in their articles and coverage. A primary objective of the Study was thereby realized in bringing before all the people in the area (not just those interested enough to attend in person) the picture of mental health in Virginia.

For example, it was most rewarding to be informed by a Commission member after the Virginia Beach Meeting that, as a direct result of the public meeting, she had been asked to address three different local groups on the subject of mental health and that one of the local woman's clubs had voted to donate the proceeds of their annual auction sale, a sum of some \$3,000, to a building fund for the local mental hygiene clinic. This was a tangible, immediate, and certainly unexpected result—a bonus over and above the information gathered at the meeting to the Commission.

The Commission membership has been tremendously impressed by the number of people who have asked "How Can We Help?" and is encouraged by public response.

Cystinuria

Cystinuria is a hereditary abnormality of renal function in which there is impaired renal tubular absorption of the amino acids, cystine, lysine, arginine and ornithine. For many years only the excretion of cystine was recognized, and both the name and clinical significance of the condition are derived from this amino acid. The loss of the four amino acids, even in massive amounts, does not cause obvious nutritional disturbances, provided the patient is on a normal diet with adequate protein intake. The clinical features of the condition are due to the recurrent development of stones in the urinary tract. Apart from this complication, the patient remains well.

In the past, cystinuria has been confused with cystinosis. These conditions, however, may be differentiated using clinical, genetic or biochemical means. The amino-aciduria found in cystinosis involves ten or more amino acids of which cystine is not prominent. In addition, cystine stones are rarely formed and the outcome is frequently fatal. Other entities in which cystinuria is a prominent feature are Wilson's disease and the variants of the DeToni-Debre-Fanconi syndrome.

For many years it was assumed that cystinuria represented a "block" in the intermediary metabolism of cystine or the other sulfur-containing amino acids, cysteine or methionine. The demonstration that lysine, arginine and ornithine were also involved provided evidence against this theory since there is no relation between the intermediary metabolism of these amino acids and those containing sulfur.

In 1949 Dent postulated that a defect in renal tubular reabsorption of cystine, lysine, arginine and ornithine was responsible for the condition. A considerable body of evidence supports this concept:

1. The plasma concentration of the four amino acids in a cystinuric patient is not elevated. If the cystinuria is the result of a blocked metabolism, the plasma levels should be elevated.
2. In normal individuals, renal clearance of cystine is approximately 4 ml. per min. In cystinuric patients the cystine clearance is approximately 100 ml. per min., i.e., approaches the glomerular filtration rate.
3. Cystinuric patients given rapid infusion of 5 gm. L-lysine show no increase in clearance of cystine, lysine, arginine and ornithine since clearance already approaches the glomerular filtration rate. Normal individuals, however, show transient increases in the clearance of the four amino acids, and only in the four that are excreted in cystinuria. This finding is analogous to the competitive inhibition of an enzyme system.

It appears, therefore, that cystinuria is due to inactivity of a specific, enzyme-like renal tubular transport system which normally combines with and reabsorbs the four related dibasic amino acids. The mechanism whereby this system operates is unknown but it has been suggested that the enzyme-like combining substance fits substrates with two suitably separated amino groups, and that this is the structural basis for the common transport of these four amino acids.

Studies on amino acid excretion in cystinuric families have elucidated two modes of inheritance. In the first type the defect is inherited as a simple Mendelian recessive and those individuals homozygous for the abnormal gene have a severe defect in the tubular reabsorption of the four amino acids concerned. Heterozygotes reabsorb these amino acids as efficiently as normal individuals. This type of condition has been called

"recessive cystinuria". In the second type of inheritance, three groups of persons can be identified within the affected family:

1. Those with grossly abnormal excretion of the four amino acids.
2. Those with moderate excretion of cystine and lysine but normal excretion of arginine and ornithine.
3. Those with normal excretion.

The distribution of these three phenotypes in cystinuric families supports the concept that the most extreme phenotype occurs in persons homozygous for the abnormal gene and the intermediate phenotype in persons heterozygous for the gene. This type of condition is called "incompletely recessive cystinuria".

The complicating feature of stone formation in persons exhibiting cystinuria is undoubtedly related to the concentration of cystine in the urine. The concentration attained at any one time is a function of the rate of excretion of cystine and the volume of urine formed. The diurnal variation in urine flow assumes paramount importance in this connection. While the excretion of cystine remains constant the decrease in night urine output results in supersaturation with cystine while with increased daytime output cystine remains in solution.

Since cystinuria *per se* is a benign condition, therapeutic efforts are directed toward preventing calculus formation. This problem has been approached in three ways:

1. Drastic reduction in dietary protein has resulted in definite decreases in cystine excretion. However, this regimen has not resulted in a significant decrease in calculus formation. In ad-

dition, such a severe degree of protein restriction is not desirable.

2. The use of alkali as a means of increasing the solubility of cystine has been attempted. However, urine pH must be raised to over 7.6 before an increase in cystine solubility occurs. Excessive doses of alkali would be required to maintain such a high pH. Attempts to increase the solubility of cystine by the use of choline, naphthalene, Vitamin A, ascorbic acid, benzoic acid and urea have met with little or no success.
3. At present, the approach offering the best hope of success involves increasing urine flow in order to prevent cystine concentration reaching saturation levels. Cystine excreted by a cystinuric patient can be held in solution by three liters of urine daily at pH 6.0. Thus, this urine volume must be maintained. In addition, because of the diurnal variation in urine volume mentioned previously, fluid therapy should be directed toward maintenance of adequate night time urine output in order to prevent precipitation of cystine.

W. N. PEARCE, JR., M.D.

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Doctors Speidel and Kindred

DEPARTMENTS of teaching institutions may continue for many years without major changes in personnel, but the longer they continue unaltered, the more drastic is the change when it occurs. The Department of Anatomy, at the University of Virginia School of Medicine, demonstrated this anew on June 30, when Doctors Carl C. Speidel and James F. Kindred retired after a total of 85 years of service during which they taught over 3000 medical students.

Dr. Speidel's 44-year tenure exceeds that of any other faculty member in the history of the School of Medicine. He has been full professor for the past 33 years. Shortly after Dr. Speidel came to the University in 1920, as Adjunct Professor of Anatomy, he began investigations on nerve growth which were destined within a decade to settle for all time a scientific controversy, by demonstrating that growth proceeded from a single cell in the central nervous system and not as the result of the cells forming a chain.

His equipment, perforce, was simple in those unsubsidized days, but his conclusions were unescapable and have never been challenged. The lighting methods devised by Dr. Speidel enabled him to demonstrate that a cut nerve cannot be spliced and made to function again. Only by the growth of new nerve material from the root can the damage be repaired. For this he received the coveted American Association for the Advancement of Science award for "a notable contribution to science". Other honors, degrees and awards followed and he extended his investigations to include the growth and behavior of sense organs, muscle fibers, blood cells and the effects of radiation on these tissues. He is the author of 200 papers and abstracts, concerning his work, which have appeared in numerous journals and books.

Dr. Speidel's "retirement" will merely mean a change of title for he will become Visiting Professor in Biology at Randolph-Macon Woman's College in Lynchburg this Fall, while he continues his research under a new U. S. Public Health grant on "Differential Resistance of Cells to Radiation".

Dr. Kindred joined the medical faculty more recently than Dr. Speidel, but he is hardly a newcomer, for he was appointed Assistant Professor of Histology and Embryology in 1923 and became Professor of Anatomy in 1938. He was co-author of *A Textbook of Embryology* with the late Harvey E. Jordan, whose death occurred last December. This book is now in its fifth edition. He has done considerable research on the hemopoietic organs of rats and the effects of low barometric pressures on the kidneys of white rats.

Dr. Kindred introduced new methods of instruction in anatomy, in

which the students participated in the grading in conjunction with the faculty. His interests have spilled over into dramatics and oil painting and his proficiency in each field surpasses that of the amateur. For many years one of his more specialized hobbies has been that of official "timer" at track meets held at the University.

The dates of birth of Doctors Speidel and Kindred fell within less than a week of each other. The writer respectfully submits that in the future the authorities who make the professional appointments should take these vital statistics into consideration for when two teachers and investigators of the caliber of Doctor Speidel and Kindred retire at the same time, the void they leave is far more difficult to fill than is usually the case. Our thanks go to them for duties superlatively performed.

"The Nurses" and "Medicare"

THE EXECUTIVE SECRETARIES of the various state medical societies were alerted by the AMA Communications Division just prior to the May 25 television program, entitled "The Nurses", to the possibility that a "veiled endorsement for 'Medicare' might be woven into the plot." There was nothing "veiled" about the endorsement given "Medicare" on this one hour program. It was pure propaganda, presented in such a manner that superficially it appeared to be a relatively fair presentation of both sides of the question. A half truth is always harder to combat than complete misrepresentation and full advantage was taken of this throughout the program.

The producers of "The Nurses" declined the technical services of the AMA Physician's Advisory Committee on Radio, Television and Motion Pictures, when this was offered during the preparatory stage of this weekly feature. This was the tip-off that a built in anti-medical bias was probably envisioned from the first. Perhaps this TV program took its cue from the name it adopted and decided at an early date to declare its independence from medicine, just as spokeswomen of the American Nurses Association did in their joint meeting with AMA representatives in Williamsburg, Virginia, several months ago.

It is urged that physicians make a point of seeing this program, at least once, in order that the sponsors may be carefully noted. It appears each Thursday night from 10 to 11, Eastern Daylight Time. Last Thursday it advertised an anti-acid, two cigarettes, a shortening, a starch and a well-known soft drink. It is always well to know just who wishes one ill and if these corporations do not know their program is used for propaganda purposes it will be worthwhile for physicians to point it out to them.

HARRY J. WARTHEN, M.D.

New Members.

The following new members were received into The Medical Society of Virginia during the month of May:

John Sheriden Ashworth, M.D.,
Richmond
George Mark Berberian, M.D., Vienna
Robert Chester Burnham, M.D.,
Arlington
Brigitta Dassler, M.D., Falls Church
Fritz Emanuel Dreifuss, M.D.,
Charlottesville
George Russell Hanna, M.D.,
Charlottesville
William Hollister, Jr., M.D.,
Fredericksburg
Hans-Peter Jabusch, M.D., Lebanon
Thomas Ralph Jarvis, Jr., M.D., Galax
Charles Joseph Mathes, M.D.,
Martinsville
Ernest L. Perez, M.D., Richmond
Alfonso Zulueta Ricohermoso, M.D.,
Chesapeake
Orlando F. Salinas, M.D., Chesapeake
John Peyton Snead, M.D., Sperryville
Cuthbert Tunstall, M.D., Fredericksburg
George Vranian, M.D., Richmond
George Richard Waterman, M.D.,
Woodstock

Dr. Luther C. Brawner,

Richmond, has been made an honorary member of the Northside Lions Club. The membership came as a surprise to him as he had been invited to speak to the club on a trip he made last year to Algeria under the CARE program. Dr. Brawner is believed to be the second honorary Lions International member in the State.

Erratum.

In the May issue of the Monthly in an article on Quality Control by Dr. George

J. Carroll, the title of M.D. was used after the name of Owen Jenkins. Mr. Jenkins is chief technician for Dr. Carroll.

Dr. Newman Honored.

Dr. Samuel Newman, Danville, has been honored for his long years of leadership in behalf of the United Jewish Appeal. The handsomely lettered framed scroll of appreciation came from the UJA's national headquarters and was presented at the opening of the annual campaign in Danville.

Virginia Society of Anesthesiologists.

Dr. John J. O'Connor, Alexandria, has been installed as president of this Society.

Correction.

In the Editorial Section of the June issue of the Monthly, in the Editorial on Political Activity by Physicians by Dr. James M. Moss, a line was dropped on page 272. The second and third lines of this page should read "majority of Virginia physicians share this same philosophy. One, and only one, Virginia Congressman has a record of voting for big government and" * * *

We regret this error exceedingly and it was caused by a last minute correction which had to be made in the editorial section (after the forms had been locked). Regardless of the circumstances, it should not have happened!

Virginia Surgical Society.

The annual meeting of this Society was held jointly with the South Carolina Surgical Association in Asheville, North Carolina, May 1st and 2nd. Dr. Richard P. Bell, Jr., Staunton, was elected president and Dr. Walter H. Buffey, Rocky Mount, vice-president. Dr. Carrington Williams, Jr., Richmond, and Dr. E. Meredith Alrich, Char-

lottesville, were re-elected secretary and treasurer, respectively.

The next meeting will be held in Williamsburg in May of 1965.

Dr. William Hatcher,

Roanoke, has been honored by the Roanoke Valley Association of Medical Assistants for twenty-two years of service to his community.

Dr. Ralph R. Landes,

Danville, won the top award of the American Urological Association for his research project on Oxygen Tension of Urine and Renal Structures. He was assisted by his two associates, Dr. Kurt O. Leonhardt and Dr. Ralph T. McCauley. Funds for the equipment needed for the project came from the Basil Browder Health Foundation of Danville and from the Danville Heart Association. The art work and drawings for the exhibit were prepared by Dr. Leonhardt. The project is now in its third year and the National Institutes of Health has underwritten the future work in this procedure.

Augusta County Medical Society.

The following are the new officers for this Society: President, Dr. Beverly J. Loesch; vice-presidents, Drs. McKelden Smith, C. W. Caulkins and James Higgs; secretary, Dr. Albert R. Gillespie; and treasurer, Dr. John Sherry.

State Board of Medical Examiners.

Governor Harrison has appointed Dr. Walter C. Fitzgerald to succeed Dr. Snowden C. Hall as a member of the Board. Both are of Danville. Dr. W. W. Zimmerman, III, Richmond, has been re-appointed.

American Board of Obstetrics and Gynecology.

The following members of The Medical Society of Virginia have been made Fellows

of the Board: Dr. Collinson P. E. Burgwyn, Petersburg; Dr. William L. Driskill, Jr., Lynchburg; Dr. Frank Graber Turner, Danville.

Study of Acromegaly.

The cooperation of physicians is requested in the referral of patients with acromegaly for a study currently in progress at the Clinical Center by the National Institute of Arthritis and Metabolic Diseases.

A new specific assay of plasma growth hormone has been developed, permitting early diagnosis in doubtful cases and objective evaluation of progression and of effects of treatment. Diagnostic studies, before and after treatment, will require several weeks. The referring physician may either elect to treat the patient himself or to have NIH administer treatment. Upon completion of the study, in either case, the patient will be returned for followup care to his referring physician who will receive a complete narrative summary.

Physicians who wish to have patients considered for this study may write or telephone Dr. Jesse Roth, Clinical Endocrinology Branch, National Institute of Arthritis and Metabolic Diseases, Bethesda, Maryland. Phone 496-5761 (Area Code 301).

Medical Building—Buckingham Community

Available two suites, one for doctor and one for dentist. Located in community of 10,000 with immediate surrounding area of 20,000 more. This is a wonderful opportunity. Call Jackson 2-5000, Mr. Kettell, 313 North Glebe Road, Arlington, Virginia. (Adv.)

Needed.

A resident medical doctor to serve the community of Arvonja and surrounding area of approximately 4,000 people. Good

opportunity for more than average income for rural doctor. Anyone interested, please call or write T. A. Yancey, President, Ar-

von-Buckingham Slate Company, Incorporated, Arvon, Virginia. Phone (office) 581-3221, or (home) 581-3240. (*Adv.*)

Obituaries

Dr. Arthur Joseph Edwards,

Bristol, died May 4th after a long illness. He was ninety-three years of age and received his medical degree from the University of Maryland in 1899. Dr. Edwards was a native of North Carolina and began the practice of medicine in Bristol fifty-seven years ago. He served as physician for Virginia Intermont for fifty-four years and donated the schools H. A. Edwards Infirmary and contributed \$15,000 to the school for a loan program in memory of his parents. Dr. Edwards had been a Mason for over fifty years. He had been a member of The Medical Society of Virginia for sixty-two years.

He is survived by nine nephews and one niece.

Dr. Thomas Earl Patteson,

Dillwyn, died June 6th at the age of eighty-one. He was a graduate of the Baltimore College of Medicine in 1909 and interned there for a year before coming to Buckingham County to practice. Dr. Patteson was a member of the Buckingham County School Electoral Board and had been a member of The Medical Society of Virginia for fifty-one years.

His wife, six sons and two daughters survive him.

Dr. Beverley Fitzwilson Eckles,

Health Officer of Henrico County, died June 2nd, at the age of seventy-four. He was a graduate of the former University College of Medicine, Richmond, in 1913. Dr. Eckles was located in Galax before coming to Richmond in 1957. He was a former member of the State Board of Medical Examiners. During World War I, Dr. Eckles

was stationed at Base Hospital No. 45. He had been a member of The Medical Society of Virginia for fifty years.

Two brothers survive him.

Dr. Brinkley.

It was with profound sorrow that the medical profession recorded the death of Arthur Sumner Brinkley, M.D. on March 19, 1964.

He was born January 22, 1887, in Nansemond County, and was the son of William James and Anne Susan Brinkley. He attended Suffolk Academy and graduated from the Medical College of Virginia in 1911. Following graduation, he became a member of the House Staff at New York Polyclinic Hospital from 1911 until 1913. In 1913 he became associated with Dr. J. Shelton Horsley in the practice of general surgery. This association lasted seven years. In 1920 he opened his office for the practice of his profession, which he pursued with great skill and devotion to his patients until his retirement in 1958.

He was an active and contributing member of many professional groups, some of which were the American College of Surgeons, the American Board of Surgery, the Virginia Surgical Society, the Richmond Surgical and Gynecology Society, the American Medical Association, the Southern Medical Association, The Medical Society of Virginia, the Richmond Academy of Medicine, and the Caduceus Club of Richmond, which was very dear to his heart.

He was past president of the Richmond Academy of Medicine, past Chief of Staff and Chief of Surgery at Retreat for the Sick, Chief of the Surgical Staff at Richmond Memorial Hospital during its organization, and Associate Professor of Clinical Surgery at the Medical College of Virginia. He served in the Army Medical Corps during World War I, and for many years he was a Lieutenant Commander in the Naval Reserve.

For fifty years his diagnostic and surgical ability won for him the esteem and admiration of his professional associates and the devotion of his patients.

He was a man of deep religious conviction and had been a deacon and an elder of Grace Covenant Presbyterian Church.

We shall miss his cheerfulness, courage, and advice, especially those of us who were closely associated

with him. We all join in grief with his grateful patients and his family. We wish to convey to his family our deep respect and our sincere sympathy for their loss.

BE IT RESOLVED that a copy of these resolutions be sent to his family and that these resolutions be spread upon the minutes of the Richmond Academy.

DOUGLAS CHAPMAN, M.D.

JAMES FITZGERALD, JR., M.D.

JOHN EASTHAM, M.D.

Dr. Perlin.

It is with deep regret that we record the death of Dr. Louis Perlin of Richmond. He died January 23, 1964.

He is survived by his wife, Mrs. Lillian Levin Perlin, a daughter, a son and three brothers.

Dr. Louis Perlin was born in Russia, April 16, 1898. His parents came to America and settled in Richmond when he was seven years old. He, therefore, called Richmond his hometown.

In June 1917, Dr. Perlin was graduated with honors from the John Marshall High School. He was awarded a scholarship to the Richmond College, where he received his pre-medical training. He received his M.D. degree from the Medical College of Virginia in 1923. Dr. Perlin served his internship at the Memorial Hospital, Richmond, from 1923 to 1924, and began the practice of medicine as an associate of Dr. Lazarus Karp. After a few years, he opened his own office and continued practicing until 1955 when he suffered a cerebral hemorrhage.

For many years, Dr. Perlin volunteered his services to examine under-privileged applicants for Camp Merriewood-Harrison. He was on the staff of the Beth Sholom Home of Virginia. He was a staff member of the Retreat Hospital and the Richmond Memorial Hospital.

He was a member of the Richmond Academy of Medicine, The Medical Society of Virginia, American Medical Association, and the Richmond Academy of General Practice. He was a member of the Fraternal Lodge No. 53, and had been secretary of the Zionist Organization of America. He was a member of Temple Beth El.

We hereby pay tribute to the memory of Dr. Louis Perlin, a charitable gentleman, a fine physician, and a devoted husband and father.

THEREFORE, BE IT RESOLVED by the Richmond Academy of Medicine on this 12th day of May, 1964, that we express our sincere and heartfelt sympathy to the bereaved family of our departed friend and colleague, to whom this memorial shall be sent, a copy to be made a part of the permanent records of this Academy, and a copy submitted to The Medical Society of Virginia.

WILLIAM M. ROBINSON, M.D.

Dr. Wellford.

We, the members of the Virginia Society of Ophthalmology and Otolaryngology wish to pay tribute to the memory of our sincere friend and colleague, Dr. Beverley Randolph Wellford.

The entire State was saddened by his untimely death on September 5, 1963. He needs no eulogy as his life was one that spoke for itself. Dr. Wellford was born in Richmond on October 31, 1893. He was educated at the Episcopal High School and the University of Virginia, where he received his undergraduate and medical training.

After service in the Army in World War I, he returned to New York Eye and Ear Infirmary to take his specialty. Later he returned to Richmond in 1923. He was a diplomate of the American Board of Ophthalmology.

Few men have held the position of high esteem, which he did these many years and no man deserved it more. He was loved by all who knew him for his kindly nature and his personification of courtesy. In his quiet and sincere manner he was ever reaching out to be of service to his fellow man, giving unsparingly of his time, his talents and his means, to his family, his patients, his church as well as to his many medical and educational societies.

He will long be remembered for his numerous historical contributions pertaining to the history of Virginia. His knowledge of Virginia history, and especially the Confederacy, was broad and detailed, surpassed by few authorities on this subject.

Several years ago he presented his collection of Confederate currency and bonds to the Virginia Historical Society. Two display cases in the Richmond Academy of Medicine Building, containing what is undoubtedly the most extensive collection of Confederate medical reprints in existence.

He was President of the Richmond Eye, Ear, Nose and Throat Society, a Charter member of the original Board of the Richmond Eye Hospital and President of that organization in 1956-57. He was also President of the Virginia Historical Society.

We, in the Virginia Society of Ophthalmology and Otolaryngology, are deeply conscious of the loss we have sustained in the passing of this dedicated physician, who devoted forty years to practice in Richmond, Virginia.

We are all grateful for having been privileged to have been associated with him and to have worked with him.

We extend our sincere sympathy to the family of Dr. Wellford and request that a copy of this tribute be sent to them and a copy to be retained on the records of our society.

L. BENJAMIN SHEPPARD, M.D.

GEORGE N. THRIFT, M.D.

Guest Editorial

A Brief Psychiatric Appraisal of United States Foreign Policy

THERE are obviously many inconsistencies in United States foreign policy, especially in its defensive maneuvering against the worldwide threats of international Communism. The United States recognizes the U.S.S.R., but does not recognize Cuba or Red China. Neither Communist Cuba nor Red China would be in existence if it were not for Russia. If Communism is so evil, why not refuse recognition to Russia as well? Or why not be consistent in the other direction and recognize Cuba and Red China as well as Russia?

The United States does not hinder, by jamming, any Communist broadcasting programs from Russia, Cuba, or elsewhere, which are beamed to listeners in the United States. The Communist nations do not, however, respond with equal courtesy to programs originated by American or other "free" stations but do everything to prevent their citizens from listening to our broadcasts. Why should our nation give its enemy every advantage? If the Communists jam our frequencies, why should we not jam theirs? What could be wrong in so doing?

In the United Nations, the Russian nation was admitted as three separate nations (White Russia, the Ukraine, and U.S.S.R.), and thus had three votes (and still does), but the United States was admitted with only one vote. This is obviously ridiculous, though the Senate did not think so.

Recently, at the urging of Presidents Kennedy and Johnson, the United States has agreed to sell surplus wheat to Russia. At first it was stated cash would be paid. Now it is obvious credit will be used. For some reason, however, the United States is not willing to sell any surplus wheat to Cuba or Red China. Are these two countries more of a threat than Russia?

United States citizens are free to travel to the U.S.S.R., even though occasionally an American is jailed on some pretext. Even high-ranking administration officials travel to Russia. However, Americans are not allowed by the State Department to travel to Cuba or Red China. Why the inconsistency? Did not international Communism originate in Russia and is it not the world center of Communist strength today?

In South Vietnam, a purely defensive war is being waged, with North Vietnam enjoying freedom from attacks. The United Nations is giving

the United States no help in this war, although we hear constantly that the U.N. is the world's great hope for peace.

Khrushchev has pledged himself to wars of liberation, but the United States has no similar aggressive policy and solely a defensive one.

With the recently announced French decision to recognize Red China, American foreign policy is further weakened.

The United States opposes the entry of Red China into the U.N., but Russia is represented (three times) and so is Communist Cuba.

The cold war continues, but the United States appears confused as to who is the chief enemy. Russia seems not so bad, and we are willing to have all kinds of deals with her. However, we are not willing to make any deals or have any kind of relationship with the weaker Communist nations such as Cuba and Red China, who were established in power with Russian aid. Furthermore, Russia has pledged all of her resources to continue their Communist regimes in power.

In 1941 President Roosevelt spoke of the four essential freedoms: freedom of speech and expression, freedom of worship, freedom from want, and freedom from fear. In later years, however, as Communist strength has grown, the United States is no longer interested in these freedoms in the world. Quite the opposite is now advocated by Presidents Kennedy and Johnson when they speak of "freedom for diversity" in the world.

Some of the most powerful nations in the U.N. do not pay their dues, but this does not affect their membership and the United States gladly makes good the deficit.

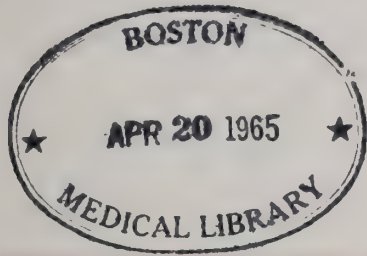
All these facts would seem to indicate that for some obscure reason the United States is desperately trying to accommodate itself to Russia, despite numerous signs of hostility shown by Russia. Why the eagerness to be friendly with Russia and not with its satellites? A remarkable inconsistency is obvious, and small wonder that many Americans are confused and have poor "morale". Morale is dependent upon wise and effective leadership, and in the conduct of United States foreign policy this leadership appears sadly deficient.

The following remarks from the book, *Men Under Stress* (Grinker & Spiegel, Blakiston, Philadelphia, 1945), bear on morale: "The leader must be not only technically sound, but strong in character and decisive. There must be no question of his courage, since the men become so strongly identified with him and from this identification absorb strength. The identification makes all his personal attributes infectious. His strength and courage are communicated to the men, who are thereby enabled to show a similar courage and strength to a degree they might never have suspected was possible."

If the leaders of a nation show uncertainty, indecisiveness, grant advantages to the enemy, show inconsistencies in policy, etc., then the citizens of that nation will consequently become disillusioned and confused and morale will be poor.

J. K. HALL, JR., M.D.

The Cervical Syndrome or Cervical Soft Tissue Acceleration-Deceleration Injury



The duration and severity of symptoms following injury to the soft tissues of the neck by rear end automobile collision is frequently influenced by litigation. A large group of patients have been followed after settlement of claims and the natural course of this injury defined.

THE CERVICAL SYNDROME has many synonyms, among which may be included "cervical soft tissue acceleration-deceleration injury", or the more common term of "whiplash". The latter is commonly used in lay conversation, but is not a good term in that it does not indicate the pathology, but only relates the type of trauma which may cause the syndrome.

William L. Allen defines this type of injury as the damage sustained to the neck structures when the body propulsion comes to a sudden stop or when the body is suddenly propelled and the head is thrust forcibly forward, backward or to either side and the head becomes the tail of a "crack the whip" motion.

The various forces that may be transmitted to the neck in whiplash injuries con-

Presented at the Annual Meeting of The Medical Society of Virginia, October 13-17, 1963.

J. S. THIEMEYER, JR., M.D.
CURTIS V. SPEAR, M.D.
GEORGE G. HOLLINS, JR., M.D.
GEORGE A. DUNCAN, M.D.
Norfolk, Virginia

sist of compression, distention, bending, shearing and torsion. When the forward motion of the body suddenly stops, together with the carrier, the head, owing to its momentum, continues forward and produces abnormal thrust to the neck. Contrariwise, if the patient is stationary and a sudden blow occurs to the rear of the car, the body is suddenly accelerated and the head lags, offering the same above-described mechanical injury, only in the reverse.

By far the greatest number of these injuries are sustained in automobile accidents which occur when a person is at a stop and his car is struck in the rear by another. This usually occurs when the person is stopped for a stop light or a stop sign and the driver of the car in the rear is unable to decelerate and stop in time to avoid hitting the car in front. Perhaps this is due to the much more rapid acceleration of the modern car, plus the increased traffic hazard of start and stop traffic or due to the monotony of driving in these modern times, where the driver becomes disinterested in the immediate driving problem.

According to the Cornell University Medical College survey, as quoted in a personal communication by Mr. Boris Tourin supervisor of technical operations, among the 8,871 injured occupants of 5,710 cars in injury producing accidents, 1.6% sustained "whiplash" injuries of the neck. Rear-end collision accidents produced nearly twelve times as many of these injuries as did non-rear-end collision accidents. Such injuries are exemplified by strains of neck muscles

or sprains of cervical ligaments, soreness or pains of the neck area, fractures or dislocations of cervical vertebrae and evidence of spinal cord damage in the cervical area. However, only 12% of these "whiplash" injuries were reported to be of critical or fatal degree. The report here presented is confined only to the cervical area and does not include any fatal cases, nor those which showed other findings, such as fractures or dislocations of the cervical vertebrae.

It is felt, therefore, that this is an assembly of "pure" acceleration-deceleration syndrome cases and not a mixture of several other specific entities, such as above mentioned.

The syndrome seems to be a very typical one and often follows a very common course. It is seen also in other injuries such as slipping on an icy sidewalk or on an oil slick or waxed floor, and thus not exclusively associated with automobile accidents or other litigation-associated accidents. Typical of the signs and symptoms of this condition are a feeling of burning or slight pain in the neck at the time of the accident, the patient may feel "dazed" or may even have slight blurring of vision at the time of injury. He is usually able to get out of the car and very often is able to drive home or is taken to the hospital and examined and discharged home to see his family physician at a later date.

Usually four to six hours afterward or oftentimes, if the accident occurs in the evening, not until the following day the patient notices markedly increasing pain of the posterior neck and frequently will describe the difficulty that is required when he awakens in the morning and attempts to sit up. Then he states he has to hold his head in his hands in order to get his head off the pillow. The pain usually increases over the succeeding several days or weeks and is accompanied by spasm of the posterior cervical musculature and the sternocleidomastoid and lateral neck muscles. Also associated are headaches which are frequently described as ascending from the occiput, or base of the skull, anteriorly into the frontal area. There may be

difficulty in swallowing, sometimes difficulty in taste and there may be pain into the ears if the sternocleidomastoids have been pulled at their styloid attachments. There is limited range of motion of the cervical spine in all planes with pain on motion. The reflexes are usually normal, the Romberg test is negative and the cranial nerves are intact.

An occasional patient will state that he or she has blurred vision for several days, but this usually clears up, yet may be associated with headaches off and on for weeks. The headache usually persists for a long period of time and may continue for months.

X-rays taken at the time of injury may show a flattening of the normal cervical curve, but, as previously mentioned, any patient that showed fractures or dislocations was not included in this study.

In the typical acceleration-deceleration injury, the discomfort lasts from six to twelve months although in the lesser cases it often will clear up in several days or weeks. The symptoms and signs will vary from day to day, sometimes spasm will be present and at other times it will not. Oftentimes after a long automobile ride or holding the head still, such as leaning over the desk when writing or typing, or during periods of stress, the symptoms will increase.

The duration of the signs and symptoms, therefore, will vary greatly with the patient's activity, with his psychic stability and with the degree of injury that initially occurred, as well as with the patient's age and whether arthritis or other defects are present at the time of injury. If arthritis is present, it is felt that the acceleration-deceleration type of injury aggravates arthritic changes to a varying degree. If the changes are severe, permanent damage may result because of the poor elasticity and tone of the ligaments, which are prone to tear and the spurring which is present may undergo trauma and fracture with attendant hemorrhage and poor healing.

Therefore, in our series of patients, after any injury to the neck, routine views of the

cervical spine were secured as soon as possible and special views as indicated. Frequently, further check x-rays at a later date were made. Birsner and Leaske have stated that retropharyngeal soft tissue swelling is associated with 25% of all "whiplash" injuries and is an index to the degree of trauma and thus important in estimating the prognosis. This incidence is considerably higher than found in our studies.

As there is a close linkage with this injury and litigation or insurance payments, particular attention has been paid to this phase of the condition. Nicholas Gotten, in his paper, "A Survey of 100 cases of Whiplash Injury After Settlement of Litigation" states that fifty-four percent had no appreciable trouble relative to their necks nor had they seen a physician for a year after settlement of their claims. Thirty-four percent had minor discomfort on cloudy days and pain on doing unusual exercises and noticed slightly more frequent headaches. These studies were gathered on unbiased, written questionnaire which in no way obligated the individual. They also noted that patients of 60-years or older were much slower in recovery and all had residual changes, possibly related to arthritis. This parallels our findings in the series here presented.

Fortunately, the majority of whiplash injuries are limited to a tearing of the musculature of the neck and ligaments about the facets or intervertebral joints or the long ligaments of the cervical spine. Fortunately, too, these injuries are most often minor and usually respond to conservative therapy, such as rest, hot packs, muscle relaxants and gentle massage and exercises. Occasionally, collars are required to support these sprains, even as a support for a sprained ankle is necessary.

However, it must be again emphasized that considerable damage can occur even though immediate x-ray findings may show but little. Changes such as bony spurs, arthritic degeneration, narrowing of the vertebral interspaces or subluxation may appear as much as a year or two later.

Because of this possibility a review of patients with this syndrome, followed over a five-year period, will be discussed further in this paper.

In essence, however, it can be stated that an x-ray which reveals flattening of the normal curve of the cervical spine or limited motion in flexion and extension is at least a suspicious x-ray and further investigative studies and a cautious prognosis should be made. Further, x-rays which show thickening of the retropharyngeal area may, too, have a sinister connotation as these would indicate hemorrhage into this area which would indicate a more severe injury.

It is noticed also that the greatest recovery occurs in the first year. In Gotten's series, 30 percent of whiplash injuries required hospitalization. This is much higher than we found in our series. Five percent of his cases developed some psychosomatic symptoms and 12 percent, despite settlement of claims, had some trouble which required them either to wear a brace, sleep in traction or take physiotherapy periodically. The statistics which will follow, will bring an interesting light on this figure.

One of us* published in the Virginia Medical Monthly in April of 1958, a report of whiplash injuries of the cervical spine. In this series a total of 68 cases of acceleration-deceleration syndrome were presented. It is interesting that 46 of the patients were women and 22 were men, a ratio of approximately two to one. The average age for the group was 38.8 years. The oldest patient was 74 and the youngest was two years of age.

On reviewing the literature, it was found that no mention was made of a child being seen with this type of injury and it may be concluded that a child usually is protected by the back of the seat of the car at impact; or it may be that his tissues are much more elastic and less vulnerable to tear with this type of force. A two-year-old child is included in this series and suffered a typical "whiplash" injury. His x-rays, however,

*John S. Thiemeyer, Jr., M.D.

were negative and he was treated with rest and no residual was noted.

As reported in this series, it was found that of all the patients that could be accurately followed, none returned following settlement of their claim or completion of litigation.

It was felt that it would be well to investigate this series further, or some ten years later. Of this group of 68 cases, 11 could not be checked for administrative reasons, one patient had called once for pain medication, but no record had been made as to whether this was relative to a previous complaint of neck pain. One patient returned nine months later with transient "pins and needles" sensation about the right upper arm. No objective defects were seen and he did not return again. One patient returned 21 months later, still complaining of neck pain after exercising and stated that his arm felt "paralyzed" at times. He had pain to the right of the 2nd cervical vertebra but no other objective findings. He did not return again.

Therefore, out of 68 cases, 11 could not be followed, one had only equivocal findings and two returned once, but not again. Therefore, 54 patients did not return after their case was settled or over 80 percent if the 11 unavailable patients are excluded from the series.

However, if these patients are regarded as non-returnees, 95 percent of the patients or 65 did not return. More accurately, however, it can be stated that only two patients could be absolutely said to have returned after settlement (which is a figure of certainly minimal proportion) and these two did not return again.

It is fully possible that some of these patients have been seen by other physicians or they have gone to other towns to live, or their condition is not sufficient to warrant medical care.

It was, therefore, felt that the series should be enlarged to become statistically significant. Therefore, the patients who sustained a cervical syndrome and where seen in our

office in the past five years have been reviewed and are here presented.

Only those cases that were associated with an automobile collision were included. Again, cases involving fractures, dislocations, or subluxations, that is, a partial displacement of the vertebra, were eliminated from the study so that the group would include only those cases involving neck sprains following an automobile accident.

The number of cases included in this study is 262. The group was divided into two sub-groups, according to the length of time seen following the accident. Those seen within 10 days following the injury were included in the first group. There were 142 such cases.

Those seen after the first 10 days were considered to include largely cases referred in for a report in preparation for settlement. This group included 120 cases. It was felt that the clinical course of the patients seen for treatment could be better evaluated if the cases seen sometime after the accident were excluded from this group.

There were 122 males and 140 females. There was, therefore, a slight predominance of females but a lower incidence of females than is commonly cited in the literature. Three patients were seen, each of whom had had two separate cervical sprains following separate automobile accidents. No significant difference could be seen in their clinical course on comparing the symptomatology following the first, and second injury at a later date. The oldest patient in this group was 69 years of age; the youngest 15 years of age. The average age was 37 years, 84½% of the cases resulted from acceleration-deceleration or rear-end type collision. 7.1% resulted in a deceleration type, or front-on collision. 8.4% followed a collision of the side type.

An attempt was made to record and tabulate separately data on patients that were found to have objective findings and those with only subjective complaints. The most common symptom, by far, was neck pain. Two hundred and fifty-two of the patients

interviewed gave a history of having neck pain following the accident. These patients, with few exceptions, still stated that there was some tenderness at the extremes of motion at the time of the examination. The next most common complaint was a "headache". The headache usually was present in the occipital or posterior aspect of the head and this was probably explained by the anatomy of the posterior neck region near the base of the skull. The 2nd cervical nerve runs up through the neck musculature and supplies the posterior aspect of the skull region. Some investigators have reported as high as a 50% incident of occipital tenderness following neck sprains. Approximately 30% of our patients complained of a headache following the collision.

The patients not mentioning neck pain as part of their symptomatology usually complained of headaches which caused them to seek medical advice. Several of the patients not complaining of neck pain specifically had other injuries, the signs and symptoms of which overshadowed what was probably mild to moderate neck pain following the accident.

Other complaints that were present on examination were difficulty or discomfort on swallowing. Nineteen patients complained of this condition. Thirty-five patients complained of pain extending down into or pain primarily in the low back region. Eleven patients complained of pain extending out into the arms. Six patients complained of symptoms referable to the ear region. Five patients complained of discomfort relative to the eyes and two of blurring of vision. One patient complained of what she thought was a decrease in her ability to taste.

Kulowski (1948) has said, "On careful examination these symptoms may be found to be associated with muscle spasm and limitation of motion of the neck; however, only a few show much in an objective way."

In the selected group of patients seen in the first 10 days following the injury, 66 or 46.5% were found to have objective findings. Muscle spasm is usually elicited with

the careful examining hand of the physician. Physicians not familiar with this determination frequently find this sign difficult to evaluate. It is usually possible to differentiate between the organic muscle spasm subsequent to injured muscle, ligaments, or nerves and that due to emotional tension, hysteria or frank malingering. The most common objective finding was that of limitation of motion.

After excluding those patients that exhibited voluntary limitation, 57 cases or 40% were found to have real limitation of motion, that is, from organic muscle spasm. Muscle spasm was definitely elicited in 23 or 16% of the patients. Fullness or swelling secondary to muscle injury was present in six or four percent of the patients examined.

An attempt was made to correlate the data of patients with x-ray findings thought to be secondary to the injury, with that of patients with objective complaints. Forty-eight patients were found to have straightening of the cervical spine. Twenty-eight or 58% of these patients with straightening were found to have objective findings along with straightening of the cervical spine.

Twenty patients, however, had no objective findings but had straightening of the cervical spine. In eight patients the straightening was of such degree that no mention of it was made when the films were later read by an independent party. There were six patients with only slight straightening of the cervical spine. There was only one patient in this group with actual reversal of the curve. Many of these x-rays were taken six to 12 months following the injury. The question arises as to whether slight straightening, but a smooth curve, is actually an abnormal finding and secondary to "muscle spasms", or whether it is due to positioning of the patient.

Contrary to general opinion, this study showed that it is unusual to see arthritic changes associated with straightening. Evaluation of the x-ray findings of the group seen early showed 30 patients or 21% with

straightening and 27 patients or 19% with arthritic changes.

Only 4% showed both arthritic changes and straightening, which is somewhat surprising. This was also true in the patients seen after the first 10 days. This may be due to the fact that the slightly increased immobility of the arthritic spine, even though slight to moderate in degree, may make straightening less common even though there is some muscle spasm present.

In the group of patients seen after the first 10 days, 23% showed arthritic changes, 8% showed straightening and 1.6% showed arthritic changes *and* straightening of the cervical spine. As would be expected, a much smaller percent showed straightening with the passage of time. In this group with persisting symptoms, many of which were sent in for evaluation prior to settlement of litigation, the percentage of arthritic changes was higher than in the patients seen predominantly for treatment of the neck sprain.

The youngest patient seen with arthritic changes was 28 years of age. There were six patients with arthritic changes between the ages of 35 and 39. There were 10 patients between the ages of 40 and 44 showing osteo-arthritic changes. The incidence of arthritis after 44 did not vary appreciably in each age group.

The number of patients' visits generally reflected the severity of the neck injury. Of the 142 patients seen during the first 10 days, only one visit was necessary in 33 patients. No indication is present as to whether any of these patients were seen or followed by other physicians. Probably this was true in some of these patients. Seventeen patients were seen twice, 22 patients were seen three times, 42 patients were seen between four and six times, 11 patients were seen between seven and 10 times and 17 patients were seen for 10 or more visits.

An attempt was made to determine the period of time between the injury and settlement in 70 patients with subpoenas in their charts. Admittedly, some of these were cases which were settled several days prior to

the date listed on the subpoena. The subpoena, however, gave an approximate date of settlement of the case.

This is mentioned because settlement in this group of cases was definitely earlier than is suggested by some authorities. The only case settled in this group after the second anniversary was that of the only patient in this group thought to have a permanent disability. This patient will be mentioned later. Forty-two percent of these cases were settled by the sixth month. It is felt that these injuries were mainly those of moderate degree.

Forty-four percent of these cases were settled between the 9th and 12th month. Eight percent of the cases were settled between a year and a year and a half following the injury and 5% were settled between a year and a half and two and a half years following the injury.

Of the 262 patients included in this second study, one patient was thought to have permanent disability resulting from the injury. Four other patients were seen following settlement. Three of these stated that they were not having any symptoms referable to the injury at that time. Two patients had been injured two years previously and one patient was seven months following the injury. Only one patient was seen because of neck symptomatology following settlement of her case.

This patient was 33 years of age and was referred back to us by the family physician for treatment of continued symptoms referable to the neck and back regions. This patient's case had been settled one year following the accident. Two weeks prior to settlement, x-rays were taken and were still found to show straightening of the cervical curve. It is interesting here to note that six months prior to the settlement, evaluation by an independent orthopaedist included x-rays which showed a normal cervical curve. The original films taken in our office just following the accident showed straightening of the cervical curve.

The patient stated that she still had neck

and back pain which she usually noted when she was tense and nervous. She was found to have no objective findings at that time.

A patient whose case was settled two and a half years following the injury and who was thought to have a permanent disability, was a 36-year-old male who was seen 18 times for treatment of symptomatology secondary to the accident. The patient originally was found to have no straightening of his cervical spine, but mild arthritic changes present. He still complained two and a half years after the accident of neck and back symptoms with headaches, especially after driving his automobile. An attempt was made to determine what change, if any, existed in the x-rays on comparison of the original films and those taken two and a half years after the accident. No change could be seen in the osteo-arthritic involvement of the cervical spine. It was felt in this case that the symptomatology would probably be permanent and that one could expect the symptoms to recur from time to time with certain activities.

He was seen recently in one of the local hospitals where he was visiting a friend and was asked about his symptomatology. He stated that he still had symptoms with certain activities—five years after the accident.

In summary of the two groups of patients, we feel that the cervical acceleration-deceleration injury or "cervical syndrome" is a definite entity with a resulting symptoms complex that lasts in duration from several days to two years and occasionally even longer. We feel that the patient's symptomatology is determined by the extent of the initial injury to the soft tissues of the neck region. The clinical course is highly influenced by the patient's emotional background, pain tolerance and the existence of any preexisting conditions; such as congenital abnormalities, or osteo-arthritic changes involving the cervical spine.

We feel that a just settlement, which usually depends on the cooperation of the physician, may frequently be more therapeutic at times than medication.

We feel that the usual picture is a complete recovery without resulting disability.

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Recent Developments in the Diagnosis, Treatment and Clarification of the Etiology of Whipple's Disease

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Whipple's disease is no longer the mystery it once was. The etiology is better understood and a satisfactory treatment has been developed. Soon the remaining riddles will be solved.

AS A PRODUCT OF INTENSE LABORATORY and clinical investigation, one finds it is unusual today to scan a current periodical without reading of a new syndrome or disease often bearing a mystic name or detailed descriptive title. Rarely one reads of a newly found cure for an old disease but more often of the advocacy of a certain pharmacologic agent in preference to a similar compound. In 1907 George Whipple described a bizarre entity¹ which he labeled intestinal lipodystrophy and which for years defied investigators searching for its etiology and treatment. Recently, however, certain conditions have afforded clinicians an unusual opportunity to study this disease with subsequent remarkable advances in determining the nature of its etiology, diagnosis and therapy. The purpose of this presentation is to highlight several of the developments responsible for our recent progress in conquering this once challenging and fatal entity.

Presented at the Richmond Academy of Medicine on April 9, 1963.

Diagnosis

Perhaps the greatest single contribution has been the utilization and perfection of the intestinal biopsy tube as an instrument for diagnostic purposes. Indeed it has been the key which has opened the door to new avenues of approach.

The signs and symptoms of Whipple's disease are similar to many other multiple system diseases with nothing in the history, physical examination or routine laboratory procedures offering a definitive lead. The small bowel seems always to be involved in this process as is readily evident on barium meal studies though, in such cases, gastrointestinal symptoms may be minimal or even absent. The indications for exploratory laparotomy in this group of patients are often unclear and the frequent debilitated state of the subject sometimes suspected of having Addison's disease frequently precludes surgery. Thus the anti-mortem diagnosis has been quite difficult to confirm and was frequently overlooked. With the advent of the Shiner,² Crosby and Rubin intestinal biopsy tubes or their several modifications, the definitive diagnosis, once suspected, is now quite easily confirmed. Barring three or four poorly understood cases, the typical picture of the PAS positive granules in the lamina propria of the small bowel can be assumed to be pathognomonic of the disease. At about the time of the descriptions of the ease of diagnosis with these tools, peripheral lymph node biopsy was shown to be a satisfactory though more uncomfortable means

of diagnosis.³ Recently rectal biopsy has been advocated as an additional source of tissue for study.⁴ In my experience it is not as reliable a diagnostic procedure as tissue taken from the small intestine.

In passing, a brief description of the biopsy tube and technique of use seems justified. The Quinton-Rubin instrument is the newer and most frequently employed in my experience. It consists of a soft plastic tube about three feet in length having a diameter of a standard milk shake straw. Beneath the outer plastic covering is a coiled spring running the length of the instrument offering slight rigidity to the tube. Through the center runs a strand of piano wire affixed to a simple handle at the proximal end. At the distal end is a tiny cylinder with a cutting edge housed in a capsule the same diameter of the tube. With no premedication, the end of the instrument is easily swallowed and may be manipulated into the duodenum manually at fluoroscopy or allowed to traverse the pylorus aided by peristalsis. When in place, the handle is manipulated to open a port in the capsule, suction is applied to the proximal end via a 50 cc syringe (vacuum carefully being measured with a pressure gauge) and then the port closed by advancing the cutting cylinder with a tug on part of the handle. The tube is then withdrawn and the specimen fixed for examination. Tissue is obtained with almost every attempt at no discomfort and minimal risk to the patient, the procedure taking 15 to 60 minutes.

Therapy

From 1907 until about 1950 Whipple's disease was considered to be universally fatal. Through the years many therapeutic approaches have been advocated, such as diet, nitrogen mustard and adrenocorticosteroids. These have not stood the tests of time. Unfortunately, well documented cases in the literature are too few and follow up too brief to have derived a satisfactory program of therapy. With the ease of diagnosis fos-

tered by the small intestinal biopsy tubes, new interest was kindled by easier recognition of Whipple's disease and this rare entity began to frequent the literature. Between 1936 and 1959 twelve patients having intestinal lipodystrophy were seen at the Duke University Medical Center. In two recent reviews of these cases^{5,6} it is now apparent that antibiotics and steroids or probably antibiotics alone were mainly responsible for the recovery in eight of these patients. The remissions in several other patients treated with antibiotics in other recent reports show a similar beneficial effect. Now, it is felt that complete clinical, biochemical and histologic remission can be expected to follow adequate therapy with penicillin, streptomycin, chloramphenicol or one of the tetracycline group of drugs. It was recently recommended that such patients be given 1,200,000 units of penicillin and one gram of streptomycin parenterally daily for 12 to 14 days followed by 1 gram of tetracycline orally daily for a period of 10 to 12 months.⁶

Etiology

In Whipple's original description he offered several etiologic possibilities. Among other things he described a tiny granular structure resembling a microorganism seen in his autopsy specimens. Though a bacterial infection was explored from time to time, investigators became entranced with the concept of metabolic errors, enzyme defects and faulty fat synthesis or transport as more likely explanations. The use of the electron microscope seems to have resolved this problem. Cheers,⁷ Siraki⁸ and others⁹ recently described definite particulate structures in the interstitium of the mucosa but were reluctant to name them. Multiple biopsy specimens taken in the Duke University series¹⁰ before, during and after treatment with antibiotics afforded an excellent opportunity to study this aspect thoroughly. Review of autopsy material and specimens of the small bowel in untreated

patients demonstrated a tiny gram positive rod shaped organism in abundance in the lamina propria of the intestine. When studied with the fluoroscein technique, these structures fluoresced just as some bacteria and fungi do. Patients before, during and after antibiotic therapy were then studied with light and electron microscopy and were found to have these organisms in varying stages of degradation.

The bacilliform bodies in each specimen appeared to be uniform in size, shape, staining qualities, and microstructure, suggesting a single strain of organism. These studies also have reasonably eliminated the possibility of a fortuitous invasion into the diseased bowel. The role these organisms play in the disease and their mode of entry remain unclear. Because similar organisms are not seen in other diseases of the intestinal tract, because they are uniformly similar in all patients with this disease, because they disappear with antibiotic therapy and lastly because the PAS positive material diagnostic of the disease can be traced to disintegrated products of these organisms, it is felt they play a specific etiologic role. To date too few patients have been seen before treatment with antibiotics to allow adequate bacteriologic study.

Summary

Until recently Whipple's disease was considered irreversible and universally fatal. With the ease of diagnosis offered by the several small bowel biopsy tubes, the disease has become more easily recognized. A review of recent cases shows the relationship between recovery and the administration of various antibiotics. When the electron microscope was employed to study specimens from these patients, it became apparent that a tiny microorganism was invariably asso-

ciated with the disease process in its active form. Further identification of this structure is in progress. In the near future physicians will have solved the remaining riddles of this bizarre disease.

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Comparison of the Latex Flocculation Test with the Frog Pregnancy Test

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The latex flocculation test for pregnancy is of the same order of accuracy as the frog pregnancy test. Each test has its advantages and disadvantages.

HUMAN CHORIONIC GONADOTROPINS reach a high level in the blood and urine during pregnancy and in patients with malignant tumors of the placenta or testes. The detection of chorionic gonadotropins is most frequently used as a test for the diagnosis of pregnancy. For many years different animals (mice, rats, rabbits, frogs, and toads) have been used in biologic tests for detection of chorionic gonadotropins. However, several immunological tests are now in use to determine whether or not there is an increase in chorionic gonadotropins. They have replaced the biologic tests in a number of institutions.

For more than a year we have performed an immunological test (latex flocculation) in conjunction with our regular frog test on each urine received for a "pregnancy test". The latex flocculation test is performed in two steps:

- a. Addition of the morning urine sample to the anti-human chorionic gonadotropin antibody.
- b. To the above solution is added polystyrene latex particles coated with

human chorionic gonadotropin, then incubated and centrifuged.

In the pregnant woman there is a combination of the chorionic gonadotropin in her urine with the antibody without visible agglutination or precipitation. When the polystyrene latex particles coated with human chorionic gonadotropin are added to the supernatant, there is no agglutination after centrifugation since the antibody has been neutralized by the chorionic gonadotropin. The urine of the nonpregnant woman contains no chorionic gonadotropin; therefore, the anti-human chorionic gonadotropin is free to combine in the second step with the polystyrene latex particles bearing human chorionic gonadotropin and agglutination occurs after centrifugation.

The latex flocculation pregnancy test has been compared to the South African (female *Xenopus laevis*) frog test by Henry and Little¹ and to the rat ovarian hyperemia test by Olson and Adducci.² In this study we compared the latex flocculation test to the male frog pregnancy test.

Material and Methods

Ninety-two fresh, first morning samples were studied from ninety-one women. They were tested within three hours after collection.

A. Male frog test. Males of *Rana pipiens* were used most of the time but a few male *Rana clamitans* were used in June and July. The biological tests were performed using the adsorbant, Adsormone,* to concentrate

*'Adsormone' is a trade name for a colloidal adsorbant for preparing urine concentrates for pregnancy tests. Louis C. Herring & Co., Chemical Products Division, 25 E. Underwood Ave., Orlando, Fla.

the hormone and to remove certain interfering substances found in many urine samples. A urine sample of 100 ml. was placed in a 100 ml. graduated cylinder and the pH adjusted to approximately 4, (nitrazine paper) by the addition of 20% HCl. 5 ml. of the Adsormone suspension were added and the graduate inverted 10 times. The mixture was allowed to settle for 20 minutes at which time the supernatant was decanted. The Adsormone suspension was then shaken up and transferred to a centrifuge tube and centrifuged at 2000 to 3000 rpm until clear. The supernatant fluid was discarded and the Adsormone precipitate ground up with 5 ml. of N/10 NaOH by means of a glass rod. The mixture was then centrifuged until clear and the supernatant fluid was poured into a small test tube. One drop of phenolphthalein was added to the alkaline extract and then 20% HCl was added drop by drop until the pink color just disappeared. This extract was then transferred to a 5 ml. syringe with a 20 gauge needle and 2.5 ml. of the extract was injected into each of two frogs. All extracts were injected into the dorsal lymph sac using frogs whose urine had been previously checked for the presence of spermatozoa. The frogs were placed in a jar containing 10 ml. of water and left at room temperature. At the end of two hours each of the frogs' urine was examined for the presence of spermatozoa; if spermatozoa were present in the urine of either frog, the test was interpreted as positive. If neither urine specimen contained spermatozoa, it was interpreted as negative.

B. Latex flocculation test. The test was done exactly as directed by the manufacturer.³ Only fresh morning specimens were accepted. They were tested within three hours. They were centrifuged at high speed for three minutes and the supernatant was carefully decanted and used in the test. 0.5 ml. of pregnancy antiserum was placed in a disposable test tube. 0.5 ml. of the centrifuged supernatant was added. They were mixed well and incubated in a 37° water

bath for one hour. 1.0 ml. of thoroughly-shaken pregnancy test antigen was added and the solution was thoroughly mixed. This combination was returned to the water bath for an additional two hours. The tube was then centrifuged for two minutes at 1000 g. The supernatant from the test sample was then compared with a well shaken "turbidity standard" against the black stripe on the pregnancy test viewing rack. When the turbidity was equal to or greater than the standard then the test was interpreted as positive. When the turbidity of the test specimen was less than the standard then it was interpreted as negative.

Results

There was agreement between the frog and latex flocculation tests in 86 cases. Both indicated pregnancy in 39 patients and non-pregnancy in 47 patients.

The five cases in which there was disagreement may be divided into two categories: normal pregnancy and threatened abortion.

There were two cases of normal pregnancy in which there was disagreement. The frog test was positive in one of the cases whereas the latex flocculation test gave a false negative reaction. The frog test gave a false negative reaction in the other case which was correctly detected as positive by the latex flocculation test.

Of the three patients with threatened abortion in which the tests were in disagreement, one patient's urine was tested on two occasions. Initially the frog test was negative and the latex flocculation test was positive. Six weeks later the frog test was positive and the latex flocculation test was negative.

The remaining two cases which were in disagreement were also cases of threatened abortion. The frog test was positive in one and the latex flocculation test was negative. The reverse was true in the other case.

Summary

A comparison of male frog and latex flocculation tests.

cultation "pregnancy tests" was made on fresh urine specimens from 91 women. The immunological test was of the same order of accuracy as the frog pregnancy test. It did not detect one case of pregnancy that was detected by the frog test; however, it did detect one case of pregnancy when the frog test was negative.

Both tests gave variable results in threatened abortion. Only three cases of abnormal pregnancy were studied.

With the immunological test one may eliminate the frog colony with its requirements.

Disadvantages of this immunological test are that it does require a urine specimen with a specific gravity of 1.015 or greater and accurately calibrated centrifuges are necessary. Our results with the test were erratic until the centrifuges were accurately cali-

brated and others have experienced the same difficulty. The manufacturer now furnishes centrifuge calibration standards which alleviate this problem.

This study was supported in part by the pathology department of the Fairfax Hospital and in part by the research department of Northern Virginia Pathology Laboratories.

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Drugs Enhance Psychotherapy

It is utterly impossible to train sufficient psychiatrists to meet today's needs in terms of the high frequency of long visits required by adherence to analytic psychotherapeutic principles. Now, however, a powerful chemical can take over a very considerable portion of the work that psychotherapy alone has tried to accomplish through the transference phenomenon in the past 60 years. It does this by inducing eudaemonia in formerly chronic melancholic individuals. This makes possible a tremendous reduction in the frequency of visits to the psychiatrist. This means that each psychiatrist can treat a considerably larger number of patients than was possible in the past. . . A rough numerical comparison of similar months of my practice during 1955 (before energizer therapy) and 1959 (after transaminase controlled energizer therapy) shows at least a 35 per cent increase in the number of patients seen; yet a satisfactory plan of psychotherapy was maintained.—Theodore R. Robie, M.D., in *Journal of the Medical Society of New Jersey*, 60:12 (Dec.) 1963.

Bacterial Endocarditis and Allergy to Penicillin

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There are situations where the administration of penicillin is essential. With adequate precautions this can be done even in the presence of penicillin sensitivity.

THE FREQUENCY of penicillin allergy creates a serious obstacle in the therapeutic approach to patients with history of reactions to previous administration of the drug, particularly when the nature of the infection and the susceptibility of the causative organism make the use of penicillin the treatment of choice. The following case is representative of a problem that is likely to be found with increasing frequency:

Case Report

A 58-year-old laborer was in good health until one month prior to his admission to the medical service of McGuire Veterans Administration Hospital, Richmond, on May 25, 1963; he initially developed weakness, cough and exertional dyspnea, and his local physician gave him a single intramuscular dose of penicillin. Soon afterwards he developed swelling, redness and tenderness of his left knee and ankle, followed by an urticarial rash described by the patient as similar to poison ivy rash. Orthopnea ensued, and a gradual deterioration

of his condition promoted his admission in the hospital. His past history was unremarkable; he denied rheumatic fever, edema or intolerance to exercise at any time prior to the onset of his disease. Physical examination showed a chronically ill patient with a temperature of 102 degrees Fahrenheit; pulse 100, with water-hammer quality. The heart was enlarged, and a grade 3/4 ejection systolic murmur was heard over the aortic area, where a faint thrill was palpable. A grade 3/4 decrescendo early diastolic murmur was heard over the same area, and a mid-diastolic rumble was heard at the apex. No opening snap was heard. The lungs were clear and the liver and spleen were not enlarged. Slight swelling of the left knee was noted; there was no peripheral edema. *Laboratory data:* hemoglobin: 8.4 Gm %; leukocyte count: 9,200, with 81% polys and 19% lymphocytes. A few white and red cells were seen in the urine sediment. The chest roentgenogram showed cardiomegaly, and the ECG suggested left ventricular hypertrophy. *Hospital course:* During the first week of hospitalization the patient ran a febrile course with daily elevations to 103 degrees Fahrenheit. Daily blood cultures were obtained, and a slow growth of Microaerophilic alpha streptococcus was identified in the majority of them. This organism showed in vitro sensitivity to penicillin, tetracyclin, streptomycin, chloramphenicol and erythromycin. *Treatment:* upon evidence of the slow growth of a penicillin-sensitive organism from several blood cultures the patient was started on prednisone, 60 mg daily, followed 24 hours later by oral penicillin V (eight million units daily) and streptomycin, 2 gm daily. Probenecid, 2 gm daily, and Pyribenzamine, 50 mg every eight hours were also given. During the next two days

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the temperature fell to normal levels and remained normal during the rest of the hospitalization. The prednisone was gradually reduced to 20 mg daily, and streptomycin was discontinued after 14 days of treatment. A reduction of prednisone to 15 mg daily was followed by the appearance of a generalized urticarial rash, which promptly subsided with increase to 30 mg daily. The oral penicillin was well tolerated by the patient, and the dose was 10 million units q.d. given at regular intervals in divided doses. Tube dilution assays of patient's serum showed satisfactory bactericidal power. Six weeks after the beginning of treatment penicillin, pyribenzamine and probenecid were discontinued, and prednisone was tapered down and discontinued five days later, with no undesirable effects. The patient remained afebrile and his general condition improved notably, as did his hemoglobin level. He was digitalized because of some residual exertional dyspnea, which subsequently improved. Blood cultures remained sterile one month after the end of treatment, by which time the patient had been discharged and was gradually resuming his normal life.

Commentary

The streptococcus is responsible for the vast majority of cases of bacterial endocarditis (nearly 80% according to a recent study,¹ and *penicillin* remains by far the best drug for treatment of such cases.^{2,3} The use of steroid therapy in allergic disorders is well recognized,⁴ and its value as a "protective" measure during penicillin treatment in patients known to be allergic to penicillin has been previously reported, including cases of bacterial endocarditis.^{5,6} The rationale behind this form of treatment is that the steroid suppresses the immunologic mechanism responsible for the drug reaction while an adequate concentration of a suitable antibiotic annihilates the infection. The corollary that follows is that only *bactericidal* antibiotics should be employed to prevent worsening of the infection during steroid administration.

Fungous endocarditis may occur as a fatal complication of steroid therapy.^{5,7} Since it has been observed during prolonged intravenous antibiotic therapy,⁷ the use of an effective oral penicillin seems justifiable, and it would also diminish the discomfort of prolonged parenteral therapy. The efficacy of oral penicillin V in endocarditis due to streptococcus viridans and microaerophilic streptococcus was reported by Quinn and Colville,^{8,9} and Hamburger.¹⁰ The value of antihistamine drugs as a coadjutant measure is open to question; our patient presented an urticarial reaction following a reduction in steroids while he was still on 150 mg of pyribenzamine daily.

Conclusion

Steroid administration appears to be of value as a protective measure in cases of penicillin allergy when the nature of a complicating infection strongly indicates the use of penicillin, and it may be a life-saving step in bacterial endocarditis in view of the high incidence of recurrences when other antibiotics are used. The assessment of the steroid dose is an individual one; it has been observed that doses from 20 to 80 mg of prednisone may be required.⁵ As for the doses of oral penicillin V, we followed those recommended by Quinn and Colville,⁸ finding them satisfactory as judged both from the clinical results and from the tube dilution assays of patient's serum bactericidal power.

Summary

A case of streptococcal endocarditis in a patient allergic to penicillin is presented. Clinical and bacteriological cure were obtained by simultaneous administration of prednisone and oral penicillin V.

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Risks of Fiberglass Vaulting Pole

High school pole vaulters are warned about the possible hazards associated with fiberglass poles due to their "apparent vulnerability to breakage".

"The potential hazard from falls and possible impaling of the vaulter justifies serious concern by all of those interested in the health and safety of athletics," according to a joint statement by the Committee on the Medical Aspects of Sports of the American Medical Association and the National Federation of State High School Athletic Associations.

"Too often, in an attempt to achieve the publicized whiplike action, the aspiring athlete turns to a pole lighter than that specified for his weight. Each fiberglass pole is rated by the manufacturer through control tests on flexural, tensile, and compressive strength for a definite weight limit. Manufacturers warn that the poles must not be overloaded

as much as five pounds or breakage is apt to occur."

Most of today's 16-foot vaulters use a pole which is specified for a vaulter weighing five pounds more to get the pole strength they need for the kick to get over the top. These vaulters know how to put extra bend in the pole, but the average high school vaulter doesn't have this skill nor is he going to a height that requires the whip action.

"Therefore, there is no excuse whatsoever . . . for the coach to allow his vaulters to use a pole lighter than that specified for their weight. Moreover, the athlete must share this responsibility by respecting the need for the fundamentals of a progressive training program rather than seeking glamorous unsound shortcuts to competitive success."

The two groups also recommended conscientious care of the fiberglass pole to avoid breakage.

A Rare Case of Calculus of the Right Maxillary Sinus and Anterior Ethmoidal Alveoli with Cholesteatoma

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Stone of a paranasal sinus is a rare finding. A case is presented here with a good result from surgery.

THE FOREIGN BODIES of the paranasal sinuses are a very rare clinical finding. They enter the sinuses through the normal nasal cavities or after an injury. Sometimes they enter after a surgical procedure. Most common foreign bodies are beads, beans, peas, vomitus, interstitial parasites, bullets, pieces of gauze or cotton. Moreover, ectopic teeth could be found in the sinuses. Such a diagnosis is an accidental finding or may be made during surgery.

Studies of foreign bodies in the paranasal sinuses have been conducted by the following: Fauchard (1746), Bordenaux (1754), Konig (1885), Ziem (1886), Kayser (1892), Spitzer (1953), Eulenslem (1893), Scheir (1893), and Michael (1895).

The stones of the igmorium antrum are an unusual and rare finding. Similar cases have been published only by Odoeskii (1952), Grig (1953), Scherbaton (1953), and Marr (1953). Here not a single case has been reported to the best of my knowledge.

I have had the opportunity to observe a rare and unusual case of lithiasis of the right igmorium antrum and anterior ethmoidal alveoli in a 53-year-old patient.

Translated by John A. Kastretsios, M.D., Silver City, New Mexico.

Etiology

Under natural conditions the different components of secretions or excretions are found at colloidal dissolution or are maintained in crystalloid solution under the action of prophylactic colloid. If for some reason the conditions of the solubility change, precipitation occurs in one or more of the components. As a result of the precipitation we have the formation of small precipitants, only visible by a microscope, which are restrained by an albuminous substratum. On the surface of the small precipitants a successive precipitation will give them a progressively packed arrangement in their sections with a progressive growth to a small stone.

The change of the contents of the secretions or excretions, which entail the formation of precipitants or small stones, is the result of many causes. The kind of diet, heredity, and peculiar conditions of the organism may be responsible, or other changes of the blood and intracellular fluids (pregnancy-hypercholesterolemia). In addition, the foreign bodies from without can influence the contents of the secretions and provoke the separation and precipitation of solid contents of the foreign body. Finally, in chronic inflammations where the accumulation of the epithelial cells produces the nucleus for the deposits of the inorganic constituents, they act the same.

There are two mechanisms known for the formation of stones of the igmorium antrum or in general of the paranasal sinuses. These two mechanisms are the formation in

the sinuses as described above, and the entrance into the sinuses from the nostrils (rhinoliths) with subsequent increase in size. Pressure of the rhinoliths destroy the nasal wall of the sinus. Gallippe feels that the inflammation results in the formation of stones in the organism.

Contents-Weight-Size-Color

The formation of the stones is the same with the rhinoliths and consists of organic matter.

The weight varies between 3-15 gms and sometimes more. The shape is ovoid or irregular.

The color differs and depends on the constituents.

Progress

The pathological condition progresses very slowly. The stones can be found in the paranasal sinuses after several years.

Symptomatology

The chief complaints consist of headaches, discharges from the nostrils with pus or with blood, difficulty in breathing and loss of smell.

Diagnosis

Diagnosis is made from the history, x-rays of paranasal cavities and diaphanoscopy.

Differential Diagnosis

Differential diagnosis should be made from chronic inflammation of the igmorium antrum, the prolapsed mucosa of the same, dental cysts and tumors.

Treatment

Surgical excision of the stone using the method developed by Caldwell-Luc or Denker.

Case Report

Case number 19436, a 53-year-old farmer, was treated at the IV Clinic of the Hos-

pital "Sanatorion Asbestochoriou-Thessalonikis" for tuberculosis of the lungs. Past history consisted of childhood diseases. He had suffered from tuberculosis since 1948. No findings or complaints indicating lithiasin or diathesin. He complained of breathing with difficulty through his right nostril from childhood and had a purulent discharge from his nose with an offensive odor. Headaches were a constant complaint.

The examination revealed eczematoïd dermatitis of the right nostril with pronounced exophthalmos and edema over the right cheek.

The otorhinolaryngologic examination showed: Oral cavity and pharynx with hyperemic mucosa. The soft and hard palate were negative. Nose: Right side was full of pus and polyps. The nasal diaphragm was deviated to the left. The examination of the right nostril with a probe showed the existence of a large foreign body slightly movable and occupying the right igmorium antrum. Ears: Normal. Larynx: Normal.

The x-ray examination of the paranasal sinuses showed an increased density occupying the right maxillary antrum, the anterior ethmoidal alveoli and part of the right nostril.

The histologic examination of the contents from the right nostril was negative for Ca cells. The blood was negative for Wassermann-Kahn and the purulent discharge was negative for bacteria Koch. The eye examination was negative except for the previously mentioned exophthalmos. A diagnosis of lithiasis of the right maxillary antrum and anterior ethmoidal alveoli was made and the patient was operated.

Operation

The patient was prepared with morphine and atropine using solution of novocaine-adrenaline for local anesthesia. A Denker procedure was performed. The anterior wall of the maxillary antrum was opened through the oral cavity and a portion of the maxilla was removed. On entering into the sinus a

definite diagnosis of lithiasis of the antrum was made. A total of two stones were removed with difficulty, by cutting them in pieces, because of their large size and hard consistency. The nasal wall of the antrum was completely destroyed. At the same time a great number of polyps were removed. The purulent discharge from the right nostril had an offensive odor with a consistency similar to cholesteatoma which was verified by the presence of crystals of cholesterol and epidermoid cells.

The post-operative course was uneventful. Commencing with the third day, the patient was afebrile, without odor, and in good condition. The sixth post operative day the eczematoid dermatitis at the entrance of the nostril disappeared. The total weight of the removed stones was 59.605 grams, of which the largest stone weighed 49.870 grams and the other stone weighing 9.735 grams. The dimensions of the largest stone were 6.5 x 4.5 x 2.7 and of the smaller stone 3.5 x 3.5 x 2.5.

Obviously, they were huge and the first presented case. The sections of the stones showed a white to yellow color. With the naked eye no other findings were visible.

The x-ray spectrographic analysis revealed the same findings in comparison with the powder of the mineral Apatite ($\text{Ca}_5\text{PO}_4\text{FCl, OH}$). Laboratory of Mineralogy and Petrology, University of Salonika, Greece. K. Soldatos, Ass. Prof.

Comparing this case with other similar cases described in other studies, this case should be classified in the first place because:

1. Of the huge size and weight of the stones.
2. It is the first case with such findings to be described.
3. Of the coexistent lithiasis in two paranasal sinuses.
4. Of the presence of cholesteatoma.
5. Of the excellent surgical result.

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The Doctor's Drug Dilemma

Regulations under the Federal Food, Drug, and Cosmetic Act of 1962 require more stringent evidence of safety for new drugs. Included are tests for genetic and teratogenic effects over several generations of animals. Usefulness as well as safety is introduced as a criterion of acceptability of new agents. There are also, unfortunately, provisions regarding labeling that are interpreted as prohibiting interstate shipment of placebos required in double-blind tests. And the whole act has generated an increasingly undigestible bolus of reports, forms, and other paper that makes life unhappy for pharmaceutical firms, investigators, and government officials. A fair estimate of the act lies somewhere between the view that this is another horrible example of government control over free enterprise, and the view that it will solve all problems. In any case, the medical profession is square in the middle of the issues and cannot avoid being involved. Mere opposition would represent a withdrawal syndrome that invites further restrictions. Complete acquiescence would imply a confidence in Washington approaching delusional euphoria.—Michael S. Shimkin, M.D., in *Public Health Reports*, 79:1 (Jan.) 1964.

Seventeenth Century Comparative Medicine and Its Significance in Virginia History

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PART II

THE PEOPLE whom the English met in Virginia were dark-skinned Mongoloid folk apparently similar in stature to the English. Their ancestors, it is thought, had, many millenia before, crossed the land bridge from Asia to Alaska and gradually migrated to the southeast. The Virginia Indians, bore a generally similar appearance to all other American natives or Amerinds as the anthropologists prefer to call them. However, a great number of mutually unintelligible languages created barriers between tribes. Furthermore, cultures in the Americas varied enormously. Some were little better than what might be expected among animals, as in the case of the Diggers of California. At the other extreme was such a great civilization as that of the Maya of Central America. It is perhaps strange that cultures should have varied so greatly considering the extent of trade and communication which evidently did exist. The presence of copper ornaments in Virginia and the Pocahontas ear rings said to be of shells from Alaska bespeak a slow continental trade.

This trade had given great benefits. It had brought maize from Central America. Maize which had given civilization to the Maya gave the Virginia Indians some relief from the hand-to-mouth existence of savagery, which along with the constant warfare and a high infant mortality limited population in primitive society. In addition to maize the Virginians had acquired tobacco, the medicine plant. They also shared with other Amerinds a knowledge

of atropine intoxication by means of datura or Jamestown weed.

There were many other Amerind cultural affinities, some possibly dating back to the earliest homes in Asia, some coincidental perhaps, some due to trade. All Indians had great interest in feathers as decorations. Even our Algonkians (the family name of many tribes of eastern Virginia, Carolina, and even farther north) wove fine feather mantles, nearly as fine as those of Peru. Other affinities were the presence of palisaded villages, mats, fish nets, preparation of dried fish, and the use of the slit skirt and the tumpline.³⁶ Many customs also were similar: matrilineal descent, fondness for bodily ornamentation, scalping, warfare more often for purposes of revenge than aggrandizement, and the universal presence and power of the medicine man or shaman in North America. These few of the many similarities of the American Indians have been listed to justify the occasional use of other than strictly Virginia medical information in making certain assumptions as to medical conditions among the Virginia Indians.

Physically the adult Indian was a good specimen. He had survived a dangerous infancy and an only less dangerous childhood. Rush stated that the Indian had a considerably slower pulse rate than the white man.³⁷ His physique was well exercised in hunting and warfare. Much has been written of his endurance of hardship and pain. It was a point of honor not to show pain. It is possible for anyone to raise his threshold for pain by the exertion of will and by a suppression of the urge to panic. This may explain the reported painless deliveries among Indian women. I may note that the few

This Article began in the July issue.

modern Indian women whom I have been privileged to follow in labor had, if anything, a lower threshold for pain than their white contemporaries. Necessity among the primitives may have urged indifference to the pain of labor; but Indian women aged quickly. Rush claimed that Indian women seldom began their menses before age 18 or 20.³⁸ In view of this statement, it is interesting to note that Pocahontas was apparently twenty when her child was born, three years after her marriage.

Perhaps related to their hardiness was their ability to heal wounds. Early English observers in Virginia were vague on this score, but American medical officers who saw or treated Indians wounded in the Southwestern campaigns were often amazed at their recuperative power.³⁹ Perhaps this was related to their cleanliness which seems to have been in such marked contrast to English dirtiness. Many early observers noted their love of bathing. From early infancy they were doused in cold water. One of their favorite treatments for any disease was a sojourn in a sweat lodge where water poured over heated stones made them perspire profusely. Then, after a certain time of sweating, the patient would rush out to close his pores by a dive into a pool of cold water.

If their personal hygiene was better than that of the English, their diet was probably not essentially different. It was more dependent on the vagaries of nature and the cycles of animals and fishes. However, their diet of savagery was augmented by the culture of corn. The first step toward civilization had been taken: some independence from the natural food supply. Nevertheless, the Indians often starved; they were sometimes gluttons in seasons of plenty. Rush claimed that scurvy was unknown among them.⁴⁰ Stone states that rickets was common.⁴¹ The other avitaminoses may have been present. Dropsies and swellings are frequently noted in the old reports. These may have been nutritional in origin; Strachey thought so.⁴² Their

general nutritional status was probably not unlike that of the poorer English.

From the frequency of mention in the sources we may judge that the arthritides also were common. If the exposed living conditions in England were conducive to such diseases, certainly exposure to the damp and cold in rush houses, stuffy cabins, or, as Tooker suggested, even in caves,⁴³ was similarly likely to produce such conditions.

There seems to be general agreement that cancer was almost unknown among these aborigines.⁴⁴ We need not pass this off as being due to their short life spans (longevity past forty was unusual) since the longevity of the whites was little better.

Most interesting was their relative freedom from infections. They had pneumonia, pleurisy, and other respiratory diseases which may be linked with exposure. Probably tuberculosis was endemic among them. Syphilis may have been present in the new world according to the most recent thought.⁴⁵ Certain it is that any syphilis contracted from the white men did not create the havoc it did in sixteenth century Europe. This bespeaks some racial immunity. But the red man knew not at all measles, smallpox, and a multitude of other diseases which had been widely exchanged in Europe for centuries. Accordingly, there could be no racial immunity to these. Unpleasant measles became a devastating plague. So did many other white man's diseases. There are numerous nineteenth-century records of whole villages being wiped out as the consequence of the chance visit of a few healthy white men.⁴⁶ This was no less true in the earliest centuries of contact. Thousands of Indians died of Spaniards' diseases. Hariot of pre-Virginia fame reported that several hundred Indians in different villages died rapidly after the briefest encounters with the Roanoke settlers; he stated that twenty, forty, sixty, or even a hundred and twenty per village died.⁴⁷ The English thought that God had helped them since coincidentally the larger number of deaths seemed to occur in the

unfriendly towns. The Indian physicians thought that the English had fired magic bullets. It is hazardous to guess what this fast-acting disease might have been. Well men can harbor and carry and transmit viruses; those primitives may have died of smallpox or of measles.

Indian populations continued to melt away as the generations of Anglo-Saxon advance went by. Part of the blame for the mortality may be placed on their shamans or medicine men, in whom the Indians had great faith.⁴⁸ But these men had had no experience with deadly contagions. When exorcism did not help they prescribed their age-old sweat-lodge-cold plunge therapy, to sweat out the evil and close the pores once the evil had gone. The result of such a treatment for smallpox can well be imagined. It is documented. Mooney states that 300 in one band died after this treatment, almost a total mortality.⁴⁹ Mortality from the "King of Terrors"⁵⁰ was "only" about 15 percent among the English.

It is difficult to exaggerate the importance of the shamans or medicine men in the culture of the American Indians. They were the elite. They were at once priests and physicians, surgeons and apothecaries and valued advisers in the government. They stored in their brains the lore as well as the medical abilities of their people. This was necessitated by the fact that the Virginia Indians had no written language. Past advances, past philosophies, past history, indeed, were merely racial memories, legends, or forgotten. Medical knowledge also had to be transmitted orally. If a savage medical genius came upon a fine discovery it was likely lost. The marvel is that curare, quinine, etc., were not lost, that the improvement of corn from a grass to a staple did progress. Important knowledge, handed down from their elders secretly, was thus the property of the shamans. These men were the more gifted intellectually but also occasionally the most unstable emotionally. They in some part derived their power or claim to power from the visions they had

seen during their apprenticeship fasts or possibly during periods of submission to drug intoxication. Frauds, neurotics, psychopaths, or true wise men as these men may variously have been, all had skills learned through long and secret perceptorships.⁵¹

As priest-physicians they well understood the primitive and complicated religion of the people. When we study their beliefs as reported in the old literature we get the impression that over the centuries one religious theory had been superimposed upon another to form a complicated hodgepodge.⁵² The Virginia Indians were fundamentally nature-worshippers: they worshiped the winds, the sun, the corn, fire, and so on. Each plant, each animal had a real spirit to be honored. This may seem poetic, but placating the spirits of food or drug plants and animals could become burdensome. They also recognized a beneficent supreme being whom they did not bother to worship because he would never hurt them anyway.⁵³ They did pay strenuous attention to Okee, however. This was a malignant being, the Devil no less, who had infinite capacity to harm. Youths were occasionally sacrificed to him.⁵⁴ Certainly the happy savage was not happy in Virginia. He was an omen-fearing, superstitious, priest-ridden man. Sorrow and terror born of fear of the supernatural were his lot. But we must remember that the English also heeded omens, were superstitious, feared the Devil, and had a horror of witches.

The English disdained, of course, the Indian religion. But through the years they came to grant considerable stature to the shamans as physicians. For generations books purporting to pass on the secrets of Indian medicine men were eagerly bought and widely read. Many a Colonial had more faith in the Indian than in his own physician. For our purposes medical practice may perhaps be divided roughly into two categories: the treatment of the obvious and the obscure. In the former case there is no reason to suppose that the primitive does not develop true skill. The Indian did set

fractures.⁵⁵ He was often considered quite skillful in extracting—or knocking out—defective teeth.⁵⁶ Lawson asserted that he had never seen an Indian with an ulcer; he had seen burns quickly healed.⁵⁷ Indians understood the use of tourniquets. They cauterized snake bites after sucking them out.⁵⁸ None of these and many other treatments like them required the use of magic. Their only aid was the apparently high recuperative power of the Indian. We will recall that the white man had also developed considerable skill in the treatment of the obvious; witness Paré, Lowe, Gale, Wiseman.

It was in the treatment of the obscure conditions, the strange internal diseases, that the primitive was fain to fall back on the supernatural. The Indian had his theory of disease; he too had to treat according to some system. The shamans taught that disease was caused either by intrusions or by extrusion. By the former he meant the injection of some evil disease spirit into the body, just as a thorn enters and festers. In the latter method the soul, or part of it, leaves the body, resulting in illness due to deprivation of the vital principle. The English were not averse to this idea; remember the fear of mirrors in the households of their sick. Apparently the intrusion hypothesis was the more favored theory. With this notion in mind it became the physician's job to extract the intruded spirit and thus cure his patient. Time after time his treatment was witnessed; it frequently availed.

Very solemnly he approached the sick man and placed a bowl of cool water near him. The water may have been magical in purpose since from that point of view its cool quality would tend to counteract the heat of illness.⁵⁹ There then would follow one or more of several treatments in the following list:⁶⁰

1. Scarification of the skin followed by the sucking off of blood and serum from the area treated directly through the lips or indirectly through a reed or stone sucking tube.⁶¹

2. Attempt to suck the evil spirit out through the navel.
3. Release of edema fluid by the use of thorn punctures.
4. Counter-irritants even to the extent of using the actual cautery or the intense heat of burning punk (moxa) on the skin.
5. The use of herbs and roots in infusions. These herbs were usually collected under magical conditions and often a little present was left beside the disturbed plant. Each shaman had his secret herbs. The potency of most was no greater than that of similarly employed native plants of Europe. However, some were used because of their known power to purge a patient or make him sweat. These were medicinal ways of driving out the evil spirit.

Before, during, and after all these methods there was used a system of prayers and incantations. In a frenzy of singing, praying, shouting ("An infernal rout of words," in Captain John Smith's concise prose) and beating of his drum the priest-physician leaped about the sick person, working himself into a sweat and finally dropping exhausted to the floor, hoping he had driven out the evil spirit.

We must recognize this sort of treatment as basically psychiatric. When called to treat a sick white man the Indian physician varied his method but not his principle. Lawson reported the case of a man, hopelessly invalided, impoverished by a long illness, who expected to die. Through many years white doctors had failed to cure him. His wife and a friend finally persuaded him to try the services of a noted Indian physician. The Indian agreed to try to help. He went into the woods, dug roots, collected leaves, and prepared a sudorific infusion which he gave the patient. While the latter was still sweating profusely in bed the fellow returned, to the terror of the household, holding a live rattlesnake which he proposed to put in bed with the patient. He assured

the frightened white people that he had defanged it. Finally he was given his way and was allowed to place the serpent about the sick man's waist. This living belt died gradually and the next morning the Indian informed his patient that the evil spirit of the disease and the snake had died together during the night. The patient, added Lawson, made a complete recovery.⁶²

To us the patient's illness was obviously hysterical. The Indian evidently shrewdly sensed this; by power of suggestion he effected a cure. Among their own people shamans had surprisingly good results. From their seemingly high success rate I submit that most purely Indian illnesses that were not obvious in nature were hysterical. When life is hard that is the common human refuge.⁶³ Witness "soldier's heart", "shell shock", and so on. Certainly the Indian had a hard life. To the fear of enemies and want there were added the haunting fears of offending some element of nature, of being bewitched, or even of falling under the malevolence of the shaman himself.

How frequently true psychoses occurred among these primitives is impossible to say. Harriot mentioned two Indians who seemingly arose from the dead.⁶⁴ These may have been catatonic schizophrenics who

revived just in time to keep from being mummified in the Eastern Carolina fashion. Devereux believes that schizophrenia is rare among primitives because suicide is likely before the true state manifests itself.⁶⁵ In the old sources we can only find hints of other mental aberrations. De Bry published a plate purporting to depict hermaphrodites, with a legend claiming that such people were disliked by the Indians generally and were employed as male nurses and litter bearers in time of war.⁶⁶ In general, most observers feel that the true psychoses were uncommon among the Amerinds.

In summary, the Virginia Indians were a primitive people quite dependent on their shamans for the maintenance of their traditions and culture, for much of their leadership, and for their medical and spiritual care. With such exceptions as Powhatan and Opechancanough few Indians reached old age. Their infant mortality was high. Their adult illnesses were due to trauma, exposure, poor nutrition, and hysteria. With these their shaman physicians could cope well enough. The white man's diseases proved to be a different problem.

(To be concluded in September issue)

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Correspondence

The Cats Are Out of the Bag

TO THE EDITOR:

Your editorial in the May issue of *Virginia Medical Monthly* points up a problem which could reach dangerous proportions and have far-flung implications.

Whereas today there seems to be some degree of merging of the professions of medicine and osteopathy, an upsurging trend such as you pointed out would bring about the formation of a new quasi-medical discipline with a new philosophy on the treatment of disease. Moreover, where hospital nurses are now ministering to patients under the direct orders of the attending physician, a movement of this nature would reach its logical climax in a system where the nurse would carry out the doctor's order if it did not conflict with her opinion, and where they would institute treatments of their own without necessarily having previously consulted the attending physician. The mere fact that hospital nurses are being called on to render treatments not previously in

their field of activity reflects the lack of a medical house staff, a doctor with many other responsibilities than routine hospital treatments, and the doctor's confidence in the nurse's ability. Though giving lip service to theoretical objections to these added responsibilities, the nurses seem to be developing craniomegaly by virtue of this trust. At present they are protected by the doctrine of "respondeat superior", but if this trend continues they will lose this protection.

If this self-proclaimed superior ability continues, this will further foster the practical nurse profession in that here the doctors will find workers who are willing to follow the doctor's orders, work with the team, and not go charging off in another direction.

I can foresee nothing but evil if this movement is permitted to continue. It should be vigorously throttled right now.

T. STACY LLOYD, JR., M.D.

May 19, 1964

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Low Blood Pressure Suit

An elastic garment has been used successfully to treat a 69-year-old woman subject to fainting when standing because of low blood pressure. There previously has been no successful management of this syndrome, according to Drs. Joel M. Levin, Paul Ravenna and Morris Weiss, Michael Reese Hospital and Medical Center, Chicago, who described the counterpressure suit in the July *Archives of Internal Medicine*, published by the American Medical Association.

The custom-fitted, commercially available garment is one piece, stretching from the waist to the toes. It provides maximum

pressure at the ankles which gradually decreases to the top. Ordinary clothes can be worn over the garment which is made of a porous elastic mesh and is comfortable in warm weather. While wearing the garment, the patient is able to walk around and is not housebound. Since the garment has been used, drug therapy has been discontinued.

The authors termed the garment an important contribution in the control of postural hypotension. Various drugs and physical means have been tried previously to control the syndrome but have proved to be either ineffective or poorly tolerated by the patient.

Methemoglobinemia

Methemoglobinemia occurs when an excessive amount of the iron of heme is maintained in the ferric state. Normally, 1-2% of hemoglobin may remain as methemoglobin throughout the oxidation-reduction equilibrium of the erythrocytes, although the average value is 0.4%. The entire clinical picture of this disease is based on the fact that ferrihemoglobin is unable to transport oxygen. Cyanosis occurs whenever there is 3 gm% (20%) of unoxygenated Hb. In the acquired methemoglobinemias the amount closely parallels the amount of the agent absorbed, while in the congenital forms it ranges from 5-60% of the total pigment. The vast majority of cases fall into 3 categories: acquired (chemically induced), inherited-enzymatic and inherited-hemoglobinopathy.

Acquired methemoglobinemia is the most common form of this disease. There are numerous compounds that produce methemoglobin when inhaled or absorbed through the intestines or skin. These include nitrites, chlorates, permanganates, quinones, methylene blue, aniline, nitrobenzene, nitrophenols, sulfanilamide, aminophenol, para-aminopropiophenone and other aryl amino compounds. Nitrates may be reduced to nitrites by the intestinal flora and absorbed to produce methemoglobinemia. Nitrates incriminated by this process are ammonium nitrate used as a diuretic, bismuth nitrate used in treatment of diarrhea and well water given newborns. Newborns are particularly susceptible because of their poorly developed methemoglobin-reducing system. The acquired type is not rare and may be fatal. It often results from the direct action of the oxidizing compound, or its intermediary product, but may be the result of catalysis of oxidation by molecular oxygen, on the ferrous ion of hemoglobin.

The congenital methemoglobinemias are primarily of two types: the recessively inherited enzymatic type and the dominantly inherited hemoglobinopathy. The recessively inherited type has greatly diminished amounts of diaphorase I which normally catalyzes the diphosphopyridine nucleotide (DPNH) reduction of methemoglobin. Recently, this enzyme has been isolated and shown to be DPNH dependent. (Diaphorase II methemoglobin reductase of Kiese is triphosphopyridine nucleotide (TPNH) dependent but has not been found to cause methemoglobinemia). The heterozygotes have only half the normal diaphorase I activity but normal levels of methemoglobin, whereas the homozygotes have 5-60% methemoglobin. The majority of homozygotes have been in children.

Other recessively inherited enzyme deficiencies that produce methemoglobinemia are thought to exist by some. A recent case of a dominantly inherited enzymatic defect producing methemoglobinemia has been reported. Diaphorase I was found to be normal but glutathione synthesis was shown to be inadequate.

At least nine dominantly inherited hemoglobinopathies that produce methemoglobinemia have been reported. They are designated with a subscript to indicate their city of origin, e.g., M_B for M_{Boston} . Hemoglobinopathies occur because of an alteration in the specific sequence of the 120 amino acids of each of the 2 alpha and 2 beta polypeptide chains comprising the globin portion of hemoglobin. In the methemoglobinopathies the substituted amino acid is considered too complex with the iron after it is normally oxidized to the ferric state, thus preventing the usual reduction to the ferrous ion by the cellular enzymes. Thus, M_B occurs when tyrosine replaces histidine in position 58 of the alpha chains, and M_{M-I} ($M_{\text{Milwaukee I}}$) occurs when

glutamic acid replaces valine in the 67 position of the beta chains. These pigments have specific spectral and electrophoretic characteristics. When the abnormal globin is recombined with normal heme, the same spectral abnormality remains. Methemoglobin levels associated with the methemoglobinopathies usually range from 20-30%.

The clinical signs and symptoms presented by patients with methemoglobinemia vary a great deal and frequently do not parallel the level of methemoglobin. Cyanosis, weakness, exertional dyspnea and headache are most prominent. These occurring in children and accompanied by tachycardia, heart murmur, cardiomegaly and sometimes secondary polycythemia most frequently lead to an initial impression of congenital heart disease. A high degree of suspicion, a pertinent environmental or family history and an inability to explain the above findings

should lead one to consider this condition. The diagnosis can be substantiated by enzymatic, electrophoretic, spectroscopic, ferrihemoglobin-cyanferrihemoglobin conversion and oxygen dissociation studies.

A. R. GOODWIN, M.D.

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Zinc Containers Cause Food Poisoning

Galvanized containers should not be used for preparing or storing food because of the hazard of zinc food poisoning. Two incidents of mass food poisoning in recent years in California which were traced to zinc containers were reported in the May Archives of Environmental Health, published by the American Medical Association.

Galvanized pots or tubs should not be used for preparation or storage of food, especially acid food, because of the possibility of conversion of zinc metal into soluble salts and subsequent ingestion of excessive amounts of zinc with the food.

In the first instance, 300 to 350 persons who attended an India Independence Day celebration were sickened by chicken and spinach stored in galvanized tubs. It was learned that the same tubs had been used for similar all-day celebration feast on two previous occasions over the years and food poisoning had occurred after these events.

These earlier poisonings were not reported because one Sikh community faction thought another faction was trying to poison them. The tubs were borrowed from the Moslem Temple in Sacramento where similar poisoning episodes had occurred in the past.

The other mass poisoning was in November of 1962 at a preview opening held by a gift shop during which an alcoholic fruit punch was kept in insulated galvanized containers for more than two days. At least 44 who drank the punch became ill.

While the exact amount of zinc ingested by those at the Independence celebration could not be determined, those who drank five ounces of the punch would have consumed 325 milligrams of zinc.

Authors of the report are M. Alice Brown, Ph.D., Joseph V. Thom, M.P.H., Gottlieb L. Orth, M.D., Patricia Cova, B.A., and Julio Juarez, M.P.H., Berkeley, Calif.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Recent Legislation Concerning Public Health Services

Present State health services will be influenced by laws enacted during the recent session of the General Assembly, to become effective July 1, 1964.

Largely through legislation, State health services have grown consistently to meet the changing public health problems of the Commonwealth since 1872, when the State Board of Health was established. Virginia was the third state to create such a board.

The following summary of new health legislation briefly describes the areas of public health affected and the action to be taken.

Hospital Construction: Amends § 32-197 and § 32-200 (Hospital Construction Law) to enlarge the Advisory Hospital Council and enable the State Health Department to administer, in addition to Hill-Burton funds, recently-appropriated Federal funds for the construction of mental health centers and research centers and facilities for the mentally retarded. (Chapter 161, 1964 Acts of Assembly)

Hospital Licensing and Inspection: Amends § 32-298 (Hospital Licensing and Inspection Law) administered by the Health Department, to include hospitals for the treatment of alcoholics, which were formerly licensed by the Department of Mental Hygiene. (Chapter 54, 1964 Acts of Assembly)

Implied Consent: Amends § 18.1-57 and § 18.1-59 and adds § 18.1-55.1, and repeals § 18.1-55 and § 18.1-56 (Implied Consent Law) to tighten restrictions on the blood test samples, admission of evidence, et cetera. (Chapter 240, 1964 Acts of Assembly)

Restaurants: Amends § 35-25, § 35-29,

and § 35-42.1 (Restaurant Law) to include vending machines and food services areas or stands. (Chapter 327, 1964 Acts of Assembly)

Visual Standards for the Operation of a Motor Vehicle: Provides for the State Health Commissioner to appoint a Committee to study and recommend visual standards requisite for the operation of a motor vehicle. (SJR 4)

State Health Department Building: Provides the mechanism to make funds available for the construction of a new State Office Building and a Laboratory Building to properly house the State Health Department. (Chapter 96, 1964 Acts of Assembly)

Reporting Divorces: Adds § 32-353.32 and § 32-353.33 regarding the reporting of adoptions and divorces to the Bureau of Vital Statistics, to place burden of preparation of the reports on plaintiffs or their legal representatives. (Chapter 99, 1964 Acts of Assembly)

Refuse Disposal: Clarifies wording of § 32.9 regarding the disposition of garbage, sewage, and other refuse matter. (Chapter 436, 1964 Acts of Assembly)

Rabies Inoculation: Amends § 29-188.1 to provide that no dog license shall be issued without satisfactory evidence that the dog has been inoculated against rabies. The counties of Accomack and Northampton are exempted but are authorized to provide for the same by local ordinance. (Chapter 449, 1964 Acts of Assembly)

Radiation Protection: Radiation Protection: Extends the old law, which provided only for the registration of sources of radiation, to give the Board of Health authority to write rules and regulations for the protection of the public health in this field, as

well as authority to take care of emergencies which might arise. It also gives the Governor authority to enter into a contract with the Atomic Energy Commission to take over certain responsibilities and sets up an Advisory Committee to the State Health Department. (Chapter 158, 1964 Acts of Assembly)

Health Regulations for County Fairs: Adds § 35-38.1 to allow Boards of Supervisors to provide special health regulations for county fairs. (Chapter 462, 1964 Acts of Assembly)

Water Supply: Amends § 62-46 through § 62-51, § 62-53, § 62-54, § 62-56, § 62-57, § 62-58, and § 62-61, and adds § 62-47.1 and § 62-60.1 (Public Water Supply Law) to enlarge definition of owner and scope of coverage, allow control of water quality other than health protection, allow provision for adequacy of supply, and make enforcement provisions more easily applicable. (Chapter 475, 1964 Acts of Assembly)

Public Swimming Pools: Amends § 35-16.1 to give the State Health Department authority for the supervision of the construction of all public swimming pools; previously only those pools located at transient lodging facilities were covered. (Chapter 499, 1964 Acts of Assembly)

Air Pollution: Provides for a VALC study on air pollution. (HJR 65)

Treatment and Rehabilitation of Alcoholics: Provides for a VALC study on the treatment and rehabilitation of alcoholics, with recommendations on how, if possible, facilities within the State can be expanded to meet the problem. (HJR 89)

The Budget: Budget Bill

1. Sufficient funds were appropriated to the Bureau of Crippled Children and the Bureau of Maternal and Child Health to en-

able the Health Department to match and thereby make available all new Federal funds for programs in mental retardation.

2. Increases were appropriated for such activities as Hospital and Nursing Home Inspection, Radiological Health, Engineering, and Laboratories, which will allow the Health Department to just about keep up with new demands and population growth in these fields. Additional funds were also appropriated to the Bureau of Epidemiology for the purchase of the new measles vaccine and to the Bureau of Vital Records and Health Statistics for the installation of an electronic computer.

3. All other departments of the Health Department received sufficient funds for merit system increases and other rising maintenance and operation costs.

4. The four tuberculosis sanatoria received sufficient funds to operate to present levels of occupancy.

5. Appropriations to the Health Department, including the tuberculosis sanatoria, total \$21,942,240 and \$22,445,035 for 1964-1965 and 1965-1966 respectively, as opposed to \$20,092,450 and \$20,193,350 for 1962-1963 and 1963-1964. (Chapter 658, 1964 Acts of Assembly)

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	June 1964	June 1963	Jan.- June 1964	Jan.- June 1963
Brucellosis	1	3	8	3
Diphtheria	—	—	—	—
Hepatitis	33	56	301	526
Measles	1390	1185	12658	7513
Meningococcal Meningitis	5	12	38	63
Meningitis (Aseptic)	1	4	7	15
Poliomyelitis	—	—	—	—
Rabies (In Animals)	15	15	191	128
Rocky Mt. Spotted Fever	3	6	11	10
Streptococcal Infections	950	626	6634	6100
Tularemia	—	—	4	5
Typhoid Fever	1	1	10	5

American Psychiatry and the General Hospital

The now flourishing romance between American psychiatry and the American general hospital was sparked (appropriately enough) in a few dark rooms of the Pennsylvania Hospital founded by Benjamin Franklin in 1751 in the City of Brotherly Love. Like most romantic involvements, the course of true love was far from smooth. But now, after a courtship of over 200 years, I am happy to announce that the two principles, although not yet married, show every sign of "going steady".

It shall be my purpose to trace the history of this intriguing courtship, to point out the fine qualities of the blushing bride and the potential groom, to warn of certain dangers, and finally to enlist the aid of organized American medicine in bringing these two, American psychiatry and the American general hospital, into holy wedlock, so that the fruits of their union may come as a blessing to the whole of American medicine.

For a long time the psychiatric patient in the general hospital was looked upon as an inescapable evil—a nuisance to be moved as quickly as possible into one of the detention rooms set aside for the purpose and then (if he didn't clear up in a day or two) to be hustled off to a private or public mental hospital in the country. In later years it became the deplorable practice to smuggle the milder psychiatric disorders into the medical wards under false or misleading medical

ZIGMOND M. LEBENSOHN, M.D.

diagnoses. Considering the state of medicine, the state of psychiatry, and the state of popular prejudice at the time, there was probably no workable alternative.

Largely as a result of these prevailing attitudes, private and public mental hospitals came into being. The first private hospitals for the mentally ill, such as The Hartford Retreat, MacLean, and Friends Asylum, appeared between 1800 and 1825. They set the pattern for "moral treatment" adopted by the state hospitals later on.

The first State hospital was at Williamsburg, Virginia, in 1773. Other State hospitals followed in rapid succession, and soon the pattern was established for the state care of various chronic diseases including the mentally ill. After a very humble beginning many of the State hospitals became excellent therapeutic institutions and reached their peak during the heyday of moral treatment in the third and fourth decades of the 19th century. Following the influx of foreign immigration in the 1850's and as a result of other socioeconomic upheavals, the State hospitals became overburdened, overcrowded, and understaffed, and have never been quite able to retrieve their earlier prestige.

Nonetheless, the tradition of state hospital care or "state medicine", if you will, for the mentally ill became firmly established in these United States. It was a tradition which has been universally accepted since Colonial times and has never been questioned even by the most loyal adherents of organized medicine.

Only within the past 50 years, with the advent of the "psychopathic hospitals", have we begun to seek some break with this firmly fixed tradition. These hospitals were most often separate institutions attached to large municipal or university teaching hospitals. Famous among the early ones were Bellevue,

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New York City (1879), Philadelphia General Hospital (1890), the University of Michigan Psychopathic Hospital (1901), the Boston Psychopathic (1912), and Henry Phipps, Baltimore (1913).

The first psychiatric ward was established at the Albany (New York) Hospital in 1902 "for the detention and care of persons afflicted with nervous and mental disorders." But the first psychiatric unit of a general hospital as we know it today was established in 1924 at the Henry Ford Hospital in Detroit.

These units were very slow in being accepted by general hospitals. A recent survey by Bush¹ indicated that in 1945 (21 years after the Henry Ford unit was opened) only 176 general hospitals had come to accept psychiatric patients. After World War II, however, the notion of including psychiatric units in general hospitals began to catch on with such swiftness that we now have over 800 such units throughout the country. Today, there are substantially more admissions to community hospitals in the United States than there are to all of the public mental hospitals combined. The widespread acceptance of this idea has made it literally true that any general hospital designed without a psychiatric unit will be obsolete before it is finished.

A Revolution in the Making

What we are now witnessing in America is a revolution in the treatment of the mentally ill. It is a revolution in which every physician can be proud to play a part. It is a revolution which hopes to overthrow the inadequacies of the large state hospital and replace them with the scientific humanism of modern psychiatry in a modern general hospital.

The dramatic success of this revolution is due in large measure to the striking effectiveness of the newer psychiatric treatment methods in the general hospital. These new treatment methods, in turn, would not have been possible without the recent scientific

advances in somatic therapies, drug therapies, and brief psychotherapy. Even though many of the new techniques had their origins in Europe, it was the remarkable American genius for testing, improving, adapting, and disseminating these ideas that made them quickly useful to large numbers of the mentally ill.

During this same period, roughly the last third of the century, the general hospital itself was also undergoing revolutionary changes. In addition to treating the acute medical and surgical emergencies, greater and greater emphasis was being placed on elective surgery, diagnostic studies, and preventive procedures. Much of this change was due to a health-oriented public and to the greatly increased use of voluntary health insurance. The general hospital with its outpatient services and educational programs has taken on the qualities of a true community health center in the total network of community health services.

At least three specific events have precipitated this revolution:

The first was the report of the Joint Commission on Mental Illness and Health in 1961 which was initiated in 1955 by the American Medical Association and the American Psychiatric Association.

The second event was the first National Congress on Mental Health in 1962 organized by the American Medical Association which strongly supported the findings of the Joint Commission.

The third event is of very recent date, and I refer to President Kennedy's ringing Message to the Congress on Mental Illness and Mental Retardation on February 5, 1963, in which he stated:

"I propose a national mental health program to assist in the inauguration of a wholly new emphasis and approach to care for the mentally ill. This approach relies primarily upon the new knowledge and new drugs acquired and developed in recent years which make it possible for most of the mentally ill to be successfully and quickly treated

in their own communities and returned to a useful place in society. These breakthroughs have rendered obsolete the traditional methods of treatment which imposed upon the mentally ill a social quarantine, a prolonged or permanent confinement in huge, unhappy mental hospitals where they were out of sight and forgotten We need a new type of health facility, one which will return mental health care to the main stream of American medicine. . . ."

The new health facility that the President had in mind is, of course, the comprehensive community mental health center. In his own words, these centers "could be located at an appropriate community general hospital, many of which already have psychiatric units. In such instances, additional services and facilities could be added—either all at once or in several stages, to fill out the comprehensive program."

These excerpts and many similar ones (which limitations of space prevent me from quoting here) sound almost as if the President had been studying the reports and recommendations of the AMA Council on Mental Health.

Unique Advantages of the General Hospital Unit

How does it happen that the President singled out the general hospital as the nucleus around which we could develop the new comprehensive community mental health centers? Obviously, he could not have done so without overwhelming evidence of its therapeutic advantages as conveyed to him by his medical and professional advisors.

The first advantage that strikes us is that the general hospital is a community general hospital in the broadest possible sense of the term "community". All citizens relate to it, those who are sick and those who entertain the possibility of becoming sick. It is the community's main instrumentality for dealing with health emergencies. If psychiatry is to become a part of the community it must do so through this instrumentality.

Clinically speaking, one reason for the notable success of the general hospital unit is precisely because the community general hospital is geared to fast intervention in an emergency situation. Treatment is applied instantaneously at the point of crisis when the dynamic forces in the situation can be turned into constructive directions. The pathology is not given a chance to "harden" and thus become immune to therapeutic attack.

The general hospital psychiatric unit, by the same token, becomes a "safety valve" in the community where acute psychoses and other conditions can be treated in a setting which provides friendly familiarity, absence of stigma, closeness to family and work, and continuity of psychiatric and medical care by the patient's family psychiatrist and family physician.

No other device seems quite so well suited to bring the private practice of psychiatry back to medicine and to bring the knowledge of psychiatry to the medical fraternity. To quote President Kennedy's Special Message on this point: "Private physicians, including general practitioners, would all be able to participate directly and cooperatively in the work of the center. For the first time a large proportion of our private practitioners will have the opportunity to treat their patients in a mental health facility"

The general hospital eliminates the distance between psychiatrists and their colleagues in medicine. It provides a locus for the healthy exchange of ideas and practices in the course of daily contacts. By offering a wide range of diagnostic and treatment facilities it provides an admirable setting for the education of both psychiatrists and other physicians. The psychiatric units of the general hospital provide an unusual opportunity for training the young resident to become a well-rounded general psychiatrist. Such a unit enables the psychiatric resident to see patients in the very early phases of illness, to participate actively in many of the crucial decisions affecting the patient's future, to assist in a wide variety of treatment methods

(including psychotherapy, organic therapies, group therapy, family counseling, etc.), and to observe rapid changes in relatively short periods of time. The importance of time and economic factors, so easily lost sight of in other settings, is impressed on the psychiatric resident and will be of great use to him in his future practice. Since well-rounded general psychiatrists are in shortest supply in the United States at the present time, any program designed to increase their number will help fill one of the great unmet public needs.

And finally, the marriage of psychiatry and the general hospital makes honest partners of both, since a general hospital cannot be truly "general" if it does not treat the mentally ill, and psychiatry remains without "honor" if she does not join in holy wedlock with the rest of medicine.

The Struggle to Overcome Isolation

I have mentioned above that one of the greatest advantages of the psychiatric unit is that it removes psychiatry from its historical isolation from medicine. Lest we forget the malevolent dangers of such isolation, let me read once again the oft-quoted warning of S. Weir Mitchell when, in 1894, he castigated the members of the American Psychiatric Association in the following words: "With you it has been different. You were the first of the specialists and you have never come back into line. It is easy to see how this came about. You soon began to live apart, and you still do so. Your hospitals are not our hospitals; your ways are not our ways. You live out of range of critical shot; you are not preceded and followed in your ward work by clever rivals, or watched by able residents fresh with the learning of the school."

What a pity that Mitchell could not live to see American Psychiatry come out of its hiding places. He would have given his hearty approval to its return to the general hospital.

But this is no time for complacency. We must remain keenly aware of another form of isolation, a professional isolation which may be even more serious in its effect than the geographical isolation to which Weir Mitchell alluded. I refer, of course, to the overemphasis on any single form of therapy, which has characterized so many of our residency training programs. Such overemphasis tends to isolate the products of these training programs from hospital medicine. In March, 1962, I had the honor of delivering the Thirty-eighth Kober Lecture at the Georgetown University School of Medicine. In this lecture² I paid full tribute to the stimulating and leavening influence of psychoanalysis on American psychiatry. However, I pointed out, "If psychiatry is to move ahead on many fronts it must train its young men to measure up to the medical and social needs of our time. Too many of our most gifted young analysts drift further and further from the main stream of medicine. They rarely visit our hospitals. Their neurology is forgotten. They take false pride in never prescribing a drug or taking a blood pressure. They seldom appear in court, even though they may have much to contribute to their patient's welfare and to the improvement of psychiatric expert testimony. They are often cavalier in their relations with their medical colleagues in the management of consultations and the writing of clinical reports. Although they may not be geographically isolated in the way which offended S. Weir Mitchell 68 years ago, many of them become just as isolated in a professional sense, and the baleful effect of this may be just as serious."

It is to counteract this type of professional isolation that the general hospital can play one of its most important roles.

The psychiatric staff of such a unit should deliberately seek to be as diverse as possible. It should include qualified general psychiatrists, child psychiatrists, and analysts of all persuasions who can work together and learn from each other.

It is a great educational experience for the analyst to visit the hospital daily and see for himself how sick patients respond to milieu therapy, electroconvulsive therapy or pharmacotherapy; to familiarize himself with the dosage, indications and contraindications of the various new drugs; to acquaint himself once again with the exciting spirit of modern medicine which is found in the general hospital of today.

It is an equally great educational experience for the nonanalyst (whether he is a psychiatrist or not) to see for himself the beneficial effects of psychotherapy in depth as practiced by the skilled analyst when other methods have failed.

In short, we must learn from each other by our successes and our failures which should, like all scientific work, be open for inspection by our colleagues. We must never again, in the words of Weir Mitchell, "live out of range of critical shot."

Trend in Architecture and Design

Medicine will, of course, be called upon to guide the architects in designing the general hospital units of the future, and we will do well to work toward an architecture that reflects the therapeutic optimism and effectiveness of modern psychiatry.

We have learned many lessons from our contacts with the general hospital over the years. First of all, we have learned that, if necessary, one can treat most psychiatric patients on a standard medical or surgical ward if proper selection, supervision, and treatment are provided. Secondly, when designed from scratch, the psychiatric unit offers exciting possibilities for the imaginative architect, psychiatrist, hospital administrator and nurse.

The psychiatric unit should, ideally, bear the same relationship to the rest of the hospital that mental illness itself bears to the rest of medicine; namely, it should be like the rest of the hospital in most respects, but different from it in some important essentials. The most important difference is the atmosphere which, by reason of its design,

furnishings and decor, should be warm, cheerful, friendly and homelike—an atmosphere which invites relaxation and diminishes anxiety. The unit should also be oriented to the fact that the psychiatric patient, unlike the medical or surgical patient, is up and about all day long and needs a place to work, a place to play, a place to meet his fellow patients in small or large groups, and a place to meet with his doctor in privacy.

As we develop an architecture of the new comprehensive community psychiatry we must take due care to avoid perpetuating the errors of the custodial past. Security features, though necessary, should be as unobtrusive as possible. When detention screens were first introduced to replace the old fashioned bars and grilles, they were hailed with great enthusiasm. Thousands of them were installed (at great expense) and many of them placed (unnecessarily) in offices, nurses' stations, and other areas not usually accessible to patients on the theory that it is better to be safe than sorry. The ubiquitous detention screen still evokes an unpleasant note of grimness, lurking danger, pessimism, and unhealthy expectations. We seem to have overdone the security business in most of the psychiatric units of the past. With American motivation, ingenuity, and know-how we can surely find the architectural devices in the newer forms of glass and other materials which will not separate the psychiatric department of the future from the rest of the hospital. These new materials and new designs will provide us with ever improved settings for administering our therapeutic skills. It is now our job to communicate our needs to the architects and builders.

The Manpower Problem

We must all be acutely aware that the manpower shortage in psychiatry has taken on frightening dimensions at the same time that public acceptance of and demand for general hospital psychiatry is at an all time high. The chief danger is that plans to construct the psychiatric units will run

ahead of plans to staff them. This could lead to disaster for the new community psychiatry. Staffing must come first, and it must be spearheaded by the very psychiatrists who are going to provide the services in these new mental health centers. We all recognize the extreme complexity of the manpower problem, but a few of its aspects merit further discussion.

As we take on the challenge of increasing the number of psychiatrists in America we must first ask ourselves these questions: 1. Are we making the most effective use of the 14,000 psychiatrists we now have in this country? 2. Is our current training in psychiatry preparing the young psychiatrist to fill the unmet needs of our time?

In my Kober Lecture² I stated, "The fact must be squarely faced that the present-day undergraduate and graduate training tends to direct the young psychiatrist into the more remunerative less arduous, and more prestigious pastures of private practice and away from the rougher challenges of research and caring for seriously sick patients. The hard truth is that we are expending enormous effort, time, and money to train a highly specialized group of experts who will devote the bulk of their professional careers to a small group of highly selected private patients. It is a disturbing truth when we view it in relation to making more than a dent on the core problem of severe mental illness in America."

I can now go even further and say that the typical product of graduate training in psychiatry today is not only not oriented toward service in a public mental hospital; he is not oriented toward service in any kind of hospital including a community general hospital. Psychiatrists who have sought to recruit personnel for their hospitals and agencies are painfully aware of the problem. I know it through my efforts to recruit and staff the Psychiatric Department of Sibley Memorial Hospital. The already overcommitted older psychiatrists of the community have lent a helping hand without hesitation. Little by little the younger men are begin-

ning to show interest, and it is my fervent hope that we will be able to train a new breed of psychiatrists who will be able to work with their medical colleagues in a medical setting and accept the responsibility for comprehensive care that is in the best traditions of American psychiatry and American medicine.

Spreading the Benefits

Another problem which must be confronted is the matter of cost. The high cost of general hospital care coupled with the fact that we have not yet accorded the mentally ill the same type of insurance coverage as we have for other illnesses has raised the suspicion that general hospital psychiatric care is intended for the privileged few who can afford it. Most citizens without benefit of health insurance cannot pay the 25 to 40 dollars a day cost of general hospital care.

To this problem American medicine must address itself with all possible dispatch. We must do everything possible to further the extension of voluntary health insurance for psychiatric disorders on the same basis as that which applies to the rest of medicine. Experimentation with insurance coverage of mental illness has so far been favorable, as is witnessed by the Group Health Insurance Plan in New York City. The President, in his Special Message to the Congress, has indicated the most likely answer: "The services provided by these centers should be financed in the same way as other medical and hospital costs . . . individual fees for services, individual and group insurance, other third party payments, voluntary and private contributions, and state and local aid can now better bear the continuing burden of these costs to the individual patient after these services are established. Long-range Federal subsidies for operating costs are neither necessary nor desirable . . ."

The Danger of Overspecialization

Finally, I want to make brief reference to the tendency toward overspecialization of

the psychiatric unit. The problem, in essence, is that a given psychiatric unit of a general hospital may become too closely identified with the particular theoretical preferences of its chief of service. There are two main approaches to overcoming this tendency. One way is to staff the unit with a broad range of personnel which will bring the complete spectrum of psychiatric theory and practice to bear on its services. The second way is to establish a policy of accepting and treating the entire range of psychiatric disorders. The ideal psychiatric unit should be able to treat schizophrenics without the fear of becoming a back ward; it should accept selected alcoholics but not become a drying-out place; it should employ electroshock therapy whenever indicated but should not become known as a "shock mill"; it should use all forms of psychopharmaceuticals but should not become a "pill emporium"; it should provide a suitable milieu for analytic psychotherapy without becoming known as a "couch haven." All of this requires time, experience, work, balance, and patience.

The Outlook and the Challenge

The psychiatric unit of the general hospital is now spearheading a true revolution in psychiatric care in America due largely to the rapid increase in the number of these units. Phase I of this "revolution" is well under way, and we are now bringing psychiatry back to town after 200 years in the country.

Phase II, which still confronts us, will involve bringing the psychiatrists out of their town offices and into our general hospitals. This phase may prove to be the more difficult and time-consuming of the two, but will not be insurmountable. The *Zeitgeist* is in our favor.

Although the private and public mental hospitals of America will continue to fill a real need in many types of disorders, it is anticipated that the future expansion of psychiatric units into active community

mental health centers will greatly reduce the number of patients who would otherwise become chronic charges.

The presence of a psychiatric unit in a general hospital fulfills many functions. It helps reduce the distance which still exists in many quarters between psychiatry and other branches of medicine. It gives golden opportunities for psychiatrists and other physicians to meet, exchange ideas, and get to know each other in a medical setting. It acts as a leavening influence by introducing the principles of modern psychiatry into every aspect of the general hospital. The psychiatric unit becomes more than a place to treat sick patients. The whole hospital becomes a better hospital as a result of its influence. The psychiatric unit becomes one lane of a two-way street: the general practitioner and specialist can learn much from the psychiatrist, and the psychiatrist, in turn, can profit by reestablishing a closer relationship with his medical colleagues. The unit is uniquely suited to the well-rounded training of the resident staff as well as the nurses, aides, and all others involved in caring for patients. The practicing psychiatrist and the local psychiatric group must assume the most active possible leadership in providing such training. The psychiatric unit of the future must become one of the important nuclei from which the practice and the teaching of modern psychiatry can be disseminated with the help of organized medicine.

The movement toward making the psychiatric unit of the general hospital the nucleus of the community mental health center has already been under way for a number of years and has also had the active blessing of organized medicine. The President's challenging Message on Mental Health and Mental Retardation has now given this movement extra strength and a sense of urgency. The challenge has been directed to all who work with the mentally ill. But it is primarily American medicine and

American psychiatry which must pick up this challenge if they are to preserve their vital leadership in the fight against mental illness in this country.

It is the impending marriage of American psychiatry and the general hospital that offers America its best hope of discarding the socialized medicine of a custodial past and replacing it with the excellence inherent in the medicine of a free society.

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2. Lebensohn, Z. M.: American Psychiatry—Retrospect and Prospect. *Med. Ann. D. C.* 31: 379, 1962.

Adapted from an address delivered March 1963 at the Ninth Annual Conference of Mental Health Representatives from State Medical Associations, sponsored by the Council on Mental Health of the American Medical Association.

Enzyme Useful in Lung Condition

Fibrinolysin, an enzyme preparation derived from human blood, was reported useful in treating the serious condition of a blood clot in the lung.

"The use of fibrinolysin appears to have favorably influenced the results of treatment of pulmonary embolism in patients not critically ill at the time of treatment," Drs. Harold L. Israel, George R. Fisher, Otto Mueller and David A. Cooper, Philadelphia, wrote in the May 18th *Journal of the American Medical Association*. However, several cases of hepatitis which subsequently developed were attributed to the preparation. The authors concluded that the use of fibrinolysin in patients with pulmonary embolism "appears justified" if the hazard of hepatitis is eliminated.

The effect of fibrinolysin was studied by comparing a group of 35 patients moderately ill as a result of pulmonary embolism who were given conventional anticoagulant therapy and a similar group of 28 patients given anticoagulants and a single large injection of fibrinolysin at the start of treatment.

While no deaths due to embolism occurred among the fibrinolysin-treated patients,

there were nine deaths from embolism among those given anticoagulants alone.

The study demonstrates "a significant reduction in mortality in the treatment of pulmonary embolism by use of fibrinolysin."

Anticoagulants are designed to prevent formation of blood clots but have little effect on those already formed. Fibrinolysin formed naturally by the body dissolves fibrin, the essential part of blood clots. The commercial product, introduced in 1959, contains both fibrinolysin and an enzyme activator, highly purified streptokinase.

Among patients critically ill as a result of pulmonary embolism, there was a high mortality rate which was "not appreciably diminished by the use of fibrinolysin."

The researchers also studied the effect of fibrinolysin among heart attack victims and patients with thrombophlebitis, inflammation of a vein wall resulting in clot formation. They concluded that fibrinolysin was ineffective in treating heart attacks and unnecessary in thrombophlebitis.

Side effects due to the drug were minor except for four cases of hepatitis which occurred among 109 patients discharged from the hospital.

National Cancer Conference.

The Fifth National Cancer Conference will be held at the Bellevue-Stratford Hotel, Philadelphia, September 17-19, 1964. This is sponsored by the American Cancer Society and the National Cancer Institute. The program is as follows:

On the morning of the 17th, Dr. R. Lee Clark, University of Texas, will be chairman of the discussion on The Epidemiology and Biology of Cancer. Other participants will be Dr. Morton L. Levin, Roswell Park Memorial Institute; Dr. Van R. Potter, University of Wisconsin; Dr. Maurice Green, St. Louis University; Dr. Leonard S. Lerman, University of Colorado; Dr. T. C. Hsu, University of Texas; Dr. Leon Dmochowski, University of Texas; Dr. Richard T. Prehn, University of Washington; and Dr. Bernard Fisher, University of Pittsburgh. The discussion on Cancer of the Breast will be headed by Dr. Robert C. Hickey, University of Wisconsin, with the following participants: Dr. Lester Breslow, California State Department of Public Health; Dr. Clarence C. Oliver, University of Texas; Dr. Dan H. Moore, Rockefeller Institute; Dr. Jack M. Layton, State University of Iowa; Dr. Walter L. Mersheimer, New York Medical College; Dr. Jacob Gershon-Cohen, Albert Einstein Medical Center; Dr. Robert T. Tidrick, State University of Iowa; Dr. Halvor Vermund, University of Wisconsin; Dr. George C. Escher, Sloan-Kettering Institute for Cancer Research; and Dr. Merle M. Musselman, University of Nebraska.

The afternoon sessions will be on Cancer of the Cervix and Oral and Laryngopharyngeal Cancer. Dr. Joseph Hyde Pratt, Mayo Foundation, is chairman of the first group. Other members of his discussion are Dr. James F. Nolan, University of Southern California; Dr. Laman A. Gray, University of Louisville; Dr. Langdon Parsons, Harvard

Medical School; Dr. Abraham F. Lash, University of Illinois; and Dr. John E. Dunn, Jr., California State Department of Public Health. Dr. Danely P. Slaughter, University of Illinois, is chairman of the discussion on oral and laryngopharyngeal cancer and the following are members of the panel: Dr. Lester R. Cahn, Columbia University; Dr. Charles M. Morris, Temple University; Dr. Frank R. Hendrickson, University of Illinois; Dr. Edgar L. Frazell, Memorial Hospital for Cancer and Allied Diseases; and Dr. Howard B. Latourette, State University of Iowa.

At the afternoon sessions, Dr. Victor F. Marshall, New York Hospital, will be chairman of the discussion on Cancer of the Prostate and Urinary Bladder. Other members of the panel are: Drs. Ralph J. Veenama, Columbia University; Mitchell Brice, II, New York Hospital; George R. Prout, Jr., Medical College of Virginia; Roger W. Barnes, Loma Linda University; Elmer Belt, U.C.L.A. Center for Health Sciences; and Henry Eisenberg, Connecticut State Department of Health. Dr. Murray M. Copeland, University of Texas, will be chairman of the discussion on Tumors of the Bone. Others on the panel are: Drs. Crawford J. Campbell, Albany Medical College; David C. Dahlin, Mayo Clinic; Gwilym S. Lodwick, University of Missouri; Clinton L. Compere, Northwestern University; and Eugene A. Foster, University of Virginia.

On the morning of the 18th, the topic will be Cancer and the Patient under the chairmanship of Dr. C. Gordon Zubrod, National Cancer Institute. Dr. David A. Wood, University of California, will speak on the Status of the American System of Clinical Classification and End Results Reporting. There will be a symposium on Systemic Effects of Cancer with the following participants: Drs. Jesse L. Steinfeld, University of Southern California; Elliott F.

Osserman, Columbia University; John L. Fahey, National Cancer Institute; G. Milton Shy, University of Pennsylvania; Nathaniel I. Berlin, National Cancer Institute; Thomas A. Waldmann, National Cancer Institute; Olof H. Pearson, Western Reserve University; and Mortimer B. Lipsett, National Cancer Institute.

In the afternoon, the discussion of Cancer of the Lung will be under the chairmanship of Dr. Alton Ochsner, Ochsner Clinic, with other members: Drs. Oscar Auerbach, VA Hospital, East Orange, New Jersey; J. Maxwell Chamberlain, Columbia University; Richard H. Overholt, Jr., Tufts University; Robert G. Ravdin, University of Pennsylvania; and Harry I. Phillips, Department of Public Health of Massachusetts. The Future Potential and Evaluation of Preoperative Radiation will be in charge of Dr. Wendell G. Scott, Washington University, with the following participants: Drs. William E. Powers, Mallinckrodt Institute of Radiology; Gilbert H. Fletcher, University of Texas; Fernando G. Bloedorn, University of Maryland; Willet F. Whitmore, Jr., Cornell University; William S. MacComb, University of Texas; and Maus W. Stearns, Jr., Memorial Hospital for Cancer and Allied Diseases. Dr. Oscar Creech, Tulane University, will have charge of the discussion on Evaluation of Perfusion and Infusion, with the following discussants: Dr. John S. Stehlin, Jr., University of Texas; Dr. Edward T. Krentz, Tulane University; Dr. Robert D. Sullivan, Lahey Clinic; and Dr. Frederick M. Golomb, New York University.

The afternoon discussions will be on Lymphomas and Leukemias, Cancer of the Colon and Rectum, and The Role of the Pathology Laboratory in the Diagnosis and Treatment of Cancer. Dr. Emil Frei, III, of the National Cancer Institute, is chair-

man of the first group and the other members are: Drs. James T. Grace, Jr., Roswell Park Memorial Institute; Robert S. Schwartz, Tufts University; Wayne R. Rundles, Duke University; Joseph H. Burchenal, Sloan-Kettering Institute for Cancer Research; Emil J. Freireich, National Cancer Institute; and Robert J. Rohn, Indiana University Medical Center. Cancer of the Colon and Rectum will be under the chairmanship of Dr. Warren H. Cole, University of Illinois, and other participants are Dr. Thomas Carlile, Mason Clinic; Dr. Robert Turell, Albert Einstein College of Medicine; Dr. Neil W. Swinton, Lahey Clinic; Dr. Joel W. Baker, Mason Clinic; Jonathan E. Rhoads, University of Pennsylvania; and N. Henry Moss, Temple University. The Role of the Pathology Laboratory in the Diagnosis and Treatment of Cancer will be conducted by Dr. Frank C. Coleman, Mercy Hospital, Des Moines, chairman; Dr. William O. Russell, University of Texas; Dr. John K. Frost, Johns Hopkins; Dr. Oscar Bodansky, Sloan-Kettering Institute for Cancer Research; and Dr. Israel Davidsohn, Chicago Medical School.

On the morning of the 19th, the discussion will be on Nucleic Acids, Viruses and Genetics in Relation to Cancer under the chairmanship of Dr. Wendell M. Stanley, University of California. Other participants are Drs. George W. Beadle, University of Chicago; John F. Enders, Harvard University; Severo Ochoa, New York University; and Arthur Kornberg, Stanford University.

Additional information and a more complete program may be obtained from the American Cancer Society, Virginia Division, 303 West Franklin Street, Richmond, Virginia 23220.

The Medical Society of Virginia . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Richard E. Palmer, President, at 10:00 A.M. on Wednesday, May 20, 1964, at Society Headquarters. Attending were: Dr. McLemore Birdsong, Dr. Fletcher J. Wright, Jr., Dr. John A. Martin, Dr. Harry J. Warthen, Dr. Kinloch Nelson, Dr. F. Ashton Carmine, Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. N. Thompson, Dr. Alexander McCausland, Dr. Dennis P. McCarty, Dr. James G. Willis, Dr. W. W. Walton and Dr. Michael A. Puzak. Also attending were: Dr. J. A. White, 2nd Vice-President; Dr. Thomas S. Edwards, 3rd Vice-President; Dr. W. Callier Salley, Vice-Speaker of the House; Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the American Medical Association; Dr. Hiram W. Davis, Commissioner, State Department of Mental Hygiene and Hospitals; and Mr. John B. Duval and Mr. William Miller, attorneys for the Society.

Special guests were: Dr. James D. Hagood, Past-President and Chairman of the Legislative Committee; Mr. W. L. Painter, Director, State Department of Welfare and Institutions; Dr. J. A. Wright, State Department of Welfare and Institutions; and Mr. Herbert Krueger, State Department of Welfare and Institutions.

Following approval of the February 12th minutes of Council, Dr. Palmer called attention to a special conference dealing with the osteopathic problem to be held at the AMA annual session in San Francisco. The Society will be represented.

The Congressional luncheon held in Washington on May 5 was reviewed, and it was agreed that it had been well received. Dr. Birdsong indicated that he had received letters from both Senators and all Representatives, and only one expressed a viewpoint (King-Anderson) contrary to that shared by medicine.

Dr. Murrell reported that several meetings had been held by representatives of the various groups interested in forming an Association of Professions, but that no expenses had been incurred thus far. Council was reminded that \$300 had been appropriated as the Society's share of such operating funds as might be necessary.

Dr. Palmer then reported on a King-Anderson "conference call" held in March with presidents of local societies and other selected participants from the 9th Congressional District. Cost of the call was less than \$60, and the overall results seem to be good.

The President then established that a quorum was present and proceeded with the formal agenda. He reviewed Council's action of February 12th when it recommended that members of the Society care for hospitalized MAA patients without charge until the next meeting of the Society's House of Delegates. Brought out was that the Virginia Kerr-Mills plan specifically contains a \$150 annual maximum for medical services and present policy does not permit payment of physicians' fees for in-hospital services. It was mentioned that all local societies had been advised early in March of Council's recommendation in this regard and individual members had recently been informed through "News and Views". In recent weeks a great many letters and resolutions have been received objecting strenuously to Council's recommendation.

Mr. Painter was introduced and began his presentation by comparing expenditures for MAA by the various states. It was interesting to note that New York, Massachusetts and California were by far the biggest users of MAA funds. This served to point out the tremendous flexibility of the federal law.

Mr. Painter went on to describe the Tennessee plan which had aroused considerable interest among Virginia physicians. This plan contains no provisions whatever for physicians' services, and the individual doctor can charge a recipient as he sees fit.

It was brought out that the Virginia program is financed on a 65 per cent federal, 22 per cent state, and 13 per cent local basis. Participation by the various localities is assured.

It was further explained that the cost estimate for the program was based upon a projection of the same policy adhered to under the State-Local Hospitalization Program. Under SLH, physicians have never charged for in-hospital services.

Mention was made of the fact that the recommended fee of \$5 for home visits had been increased by the State Board of Welfare to \$6. Mr. Painter stated that the Board's decision had been based upon additional information available during its meeting.

In discussing the law itself, it was learned that a fee schedule is only required when actual payments are to be made. There is nothing in the law which requires that payment be made for physicians' services. By the same token, there appears to be nothing to prevent a physician from submitting a statement to the recipient when his services are not covered in the State program. The Virginia plan, at this time, definitely does not pay physicians for in-hospital services.

An objection was then made to signing certifications that no charge would be made under the program. It was explained that while no payments for in-hospital services can be provided under the program, there is no State-wide policy concerning the signing of certificates. This was thought to be entirely a local matter.

At the request of Dr. Wallace, resolutions from the Norfolk County Medical Society and Portsmouth Academy of Medicine were read. Both resolutions objected to the current policy of non-payment for in-hospital services. Also made a part of the record were letters from the staff of Farmville Southside Community Hospital, the Tri-County Medical Society, and the staff of the Petersburg General Hospital. These letters also objected to the current policy.

It was also requested that a resolution from the Roanoke Academy of Medicine be brought to the attention of Council. This resolution urged that the February 12 action of Council be reversed and that the matter of fees be left to those physicians who care for hospitalized patients.

Council learned that the Virginia Society of Ophthalmology and Otolaryngology had likewise submitted a statement objecting to the current non-payment policy. In addition, Dr. Edwards reported that the Albemarle County Medical Society had adopted a resolution recommending the Blue Shield schedule as a basis for payment.

Dr. Walton indicated that he had received possibly 150 letters from physicians in the 9th District, and that most of them wanted the right to bill MAA patients as they saw fit. Letters from a group of physicians in the 5th District were read by Dr. Thompson.

Dr. Wright reminded Council that it is imperative that Kerr-Mills work successfully in Virginia. The law had been supported by medicine nationally and had been accepted as a workable alternative to the social security approach (King-Anderson). Everyone agreed that Dr. Wright had stated the situation exactly.

As a matter of record, it was again stressed that Council can only act in an advisory capacity as far as MAA is concerned. All decisions concerning policy in Virginia remain the responsibility of the State Board of Welfare. The thought was expressed that perhaps this point had not been made clear to the membership.

Following a recess for lunch, Mr. Painter assured Council that his Department was dedicated to making Kerr-Mills succeed.

Dr. Hagood was then invited to offer any comments he might wish concerning the program—particularly from the point of view of the General Assembly. Dr. Hagood described the preparation and work necessary to obtain enactment of enabling legislation and expressed the belief that the profession must be willing to make some sacrifice if Kerr-Mills is truly to be the answer to Fedicare. He went on to say that members of the General Assembly had no objection to physicians' services being covered under the program. He repeated, however, that medicine must make up its mind that it must choose between Kerr-Mills and King-Anderson—reason enough for sparing no effort in Kerr-Mills' behalf.

There followed some discussion as to whether a program administered through the facilities of Blue Cross-Blue Shield could save money in the long run. It was agreed that, although this approach was being used in several areas of the country, it would require considerable study before a reasonable decision could be reached in Virginia.

A resolution was then introduced by Dr. Murrell urging the Department of Welfare and Institutions to consider the feasibility of establishing a program which would continue to provide hospital, nursing home, dental and pharmaceutical services, but which would eliminate any reference to physicians' services. Such a program would make it possible for the physician to bill program recipients as he might see fit. The motion further requested the Department to report the results of its study at the next meeting of Council and also would urge local societies to make full use of their mediation committees in the consideration of fee complaints stemming from the program. The motion was seconded.

There followed considerable discussion as to whether fees for home and office visits should be retained. There was also some objection to taking any action until component societies could be contacted.

An amendment by Dr. Walton which would have the program retain provisions for home and office visits, but make it possible for the physician to per-

sonally bill his patient for in-hospital services, was seconded. It was, however, ruled out of order because of direct conflict with the primary motion.

As discussion continued, Mr. Krueger raised a question as to whether the Society would actually weaken Kerr-Mills by rejecting provisions for medical service fees.

Dr. Wallace then introduced a substitute motion which would have the Department of Welfare and Institutions consider the feasibility of (1) elimination from the program of all reference to physicians' services—thereby making it possible for physicians to bill patients as they see fit; (2) retention of provisions for home and office visits, but permit physicians to bill patients for in-hospital services; or (3) payment for both out-patient and in-patient services by physicians. The motion also would have local mediation committees give every consideration to fee complaints stemming from the program. The motion was seconded by Dr. Walton.

Once again there followed considerable discussion. A strong objection was made to that portion of the motion having to do with mediation committees, and the wish was expressed that members of Council could have the benefit of the advice of their constituents. Dr. Edwards stated that the Advisory Committee to the Department of Welfare, meeting on the 10th, had expressed the feeling that it could not alter its original recommendation until experience had been gathered from at least the first six months of the program's existence. There was some mention of the advisability of adopting a statement of principle rather than the motion under consideration.

A motion was then introduced by Dr. Wright which would table the substitute motion. It was seconded and adopted. The Secretary was requested to record the dissenting votes of Dr. Walton, Dr. Martin, Dr. Wallace and Dr. McCausland.

Dr. Murrell then introduced a motion which called for the Department of Welfare and Institutions to study the feasibility of having Virginia's MAA plan provide hospital, nursing home, dental and pharmaceutical services, but eliminate all reference to physicians' services. The physician would be permitted to bill his patient as he might see fit. The motion would also state that this indicated no lack of support of Kerr-Mills on the part of physicians. The motion was seconded by Dr. Puzak.

A motion to table was seconded but failed to carry. Dr. Murrell's motion then carried unanimously.

Dr. McCausland then introduced a motion to reconsider and so record in the minutes. It was seconded. The Parliamentarian stated that the motion seemed to be in order. *As a result of this opinion, it was moved by Dr. Murrell to adjourn for a period of five minutes. The motion was seconded and adopted.*

Following the President's call to order, Dr. Salley, serving as Parliamentarian, offered an opinion that the motion to reconsider, made during the previous session, was out of order since it could not be made at a one day session. *Dr. Palmer officially ruled the motion out of order.*

Dr. Murrell then introduced a motion which recommended that no change in current MAA policy be made by the Department of Welfare and Institutions until the Society's House of Delegates meets in October. The motion was seconded and adopted.

The thought was expressed that each member of Council should, in some manner, contact the physicians in his District and endeavor to explain Council's actions. It was emphasized that the membership should understand Council can only make recommendations to the State Board of Welfare.

Dr. Willis called attention to the efforts of Dr. Hundley to bring about a better understanding of the recommendations adopted by his committee and Council. *Everyone agreed that Dr. Hundley deserved the sincere thanks of the Council, and a motion to forward a resolution of appreciation was seconded and adopted unanimously.*

Council was advised that the Norfolk County Medical Society had requested that its Charter be amended to conform with the merger of several political subdivisions in its area. A question was raised concerning the exact wording of the original Charter granted the Norfolk County Society, and the Secretary was requested to research the Society's records in an effort to locate the original. It was further suggested that the President appoint a special committee to study the Charters of the Norfolk County Medical Society and the Portsmouth Academy of Medicine. This committee would make its findings known to those societies and all parties would then understand any revisions recommended. *A motion carrying out this suggestion was seconded and adopted.*

Attention was called to a recent editorial in the Virginia Medical Monthly which revealed that Virginia has 27 lay laboratories currently in operation and ranks 13th in the entire nation. It was also pointed out that Virginia has 15 laboratories "fronted" by physicians who have no actual supervision.

Lay laboratories have become quite a problem over the country and charges of incompetence are often heard. Dr. Palmer mentioned the concern of the American Society of Clinical Pathologists in this regard and described efforts to cope with the problem. Also brought out was the fact many of the lay persons operating laboratories completely lack an understanding of medical ethics. This, in itself, can be very detrimental.

A motion was then introduced referring the problem to the Committee on Medical Service for study and recommendations. The motion was seconded and adopted.

Dr. Salley briefly explained proposed amendments to the Constitution and By-Laws which will be contained in the annual report of the Judicial Committee. During discussion concerning the composition of Council, Dr. Wallace moved that the President should invite to Council meetings any persons who, in his opinion, can contribute to the business at hand. The motion was seconded and adopted.

Dr. Martin moved that in view of the great amount of medical care in Virginia currently under the jurisdiction of the State Board of Welfare and Institutions, and the probability that this will greatly increase in the future, Council should request the Governor to consider the appointment of a physician to the Board. It was further moved that such a request be routed through Dr. Hagood and Dr. Palmer, providing Dr. Hagood believes it advisable. The motion was seconded and adopted.

Another motion was introduced calling for the Society to recommend one or more of its members to membership on the special VALC subcommittee studying Kerr-Mills. The motion also provided that nominations be made the responsibility of the Executive Committee. The motion was seconded and adopted.

It was learned that the Local Committee on Arrangements for the 1964 Annual Meeting had been giving some thought to making a post-convention cruise available following adjournment on October 14. The cruise would leave from and return to Norfolk. The Secretary was requested to write the Chairman of the Local Committee and state that, while the Society is not in a position to sponsor such a cruise, it has no objection, and will, in fact, endorse local efforts.

There followed a discussion concerning certain proposed amendments to the Society's Medicare contract, and it was decided to withhold further judgment until the new annual contract is received in

the fall. The present contract runs through the remainder of this year.

A resolution from the Tazewell County Medical Society having to do with certain portions of the Constitution and By-Laws was presented for information only. It was understood that the resolution would be formally introduced on the floor of the House of Delegates by delegates from the Tazewell County Medical Society.

Council received a request from the Virginia League for Planned Parenthood that it endorse a proposed information folder designed to be inserted in the birth certificate booklet provided new mothers under the joint sponsorship of State and local health departments, The Medical Society of Virginia, and the Virginia Hospital Association. *While there was no objection to the proposed folder, it was moved by Dr. Finch that the request be referred to the Committee on Maternal Health for study and possible recommendations. The motion was seconded and adopted.*

At the request of the President, Dr. Murrell reported on a joint meeting of the Executive Committee and a special committee representing the Board of the Virginia Medical Service Association (Blue Shield). The meeting had been called at the request of the Virginia Medical Service Association to review once again the question as to whether Blue Shield should pay for certain services provided by osteopaths, podiatrists and dental surgeons. It was reported that a new approach to the problem had been presented—the approach being a rider which could be purchased at an additional premium to cover such services. Dr. Murrell explained that since the rider approach was new as far as Council was concerned, the Executive Committee had recommended that the Virginia Medical Service Association withhold final action until the Society's House of Delegates could consider the matter in October.

Dr. Palmer reported that a special conference dealing with the osteopathic question was to be held in San Francisco during the AMA annual meeting, and that Virginia would have representatives in attendance.

The Virginia-Carolina 65 Plan was discussed and it was learned that the initial enrollment period had been extended for several days. Dr. Palmer had been requested to issue a statement supporting the plan. A similar statement would be released by the President of the Medical Society of the State of North Carolina. *The proposed statement was read and a motion of approval was seconded and adopted.*

Dr. Palmer reported that an AMA-ERF check had been presented to the University of Virginia School of Medicine during a recent meeting of the Albemarle County Medical Society. A check for the Medical College of Virginia has also been received, and Dr. Murrell and Dr. Ball were requested to present it to Dr. Nelson at an appropriate time.

Attention was called to a recent editorial by Dr. Warthen referring to a report concerning an AMA sponsored nursing conference held in Williamsburg in February. Reports indicate that some nursing leaders are pressing for an entirely new concept of nursing and its role in the care of the patient. News items stemming from the Williamsburg conference referred to "an area of conflict between the professional nurse and the profession."

Considerable concern was expressed over such reports, and it was the consensus that the Society's delegates to AMA should introduce a resolution bearing on the subject. It was moved that Dr. Warthen be requested to compose such a resolution for review and approval by the Executive Committee. The motion was seconded and adopted.

A suggestion was made by Dr. Murrell that the President write a letter to the entire membership explaining the recent actions of Council with reference to Kerr-Mills. The suggestion was well received and a motion requesting Dr. Palmer to write such a letter was seconded and adopted.

Dr. Birdsong called attention to the steadily lengthening sessions of council, and expressed the feeling that Council members should have more time to reflect on some of the more important issues before casting their votes. He suggested that two-day sessions be given serious consideration, and that the expense of overnight housing be borne by the Society. The plan, as proposed by Dr. Birdsong, would call for a meeting during the afternoon and early evening of the first day, to be followed by a second session the following morning.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

Approved:
RICHARD E. PALMER, M.D.
President

Annual Meeting
The Medical Society of Virginia
The Golden Triangle
Norfolk, Virginia
October 11-14, 1964

Where Will It End?

WE ARE WITNESSING the birth of a tremendous new program. It is called the "anti-poverty war". Federal expenditures which now seem modest will eventually be enormous. 'Tis the way of things Federal. Permanent control of America will be the political fortune of the party which fosters a successful program. If the armaments race ever dwindles this "warm-hearted war" will take up the slack in the Budget. If, as is probable, it does not, this new drive will escalate the Debt. That the resultant inflation may further complicate the problems of the poor does not enter into the calculations of the planners.

Now who are the poor? According to the New Frontier any family with an income of less than \$3,000 falls into this category. (Astonishing fact: such an income spelled comfort in 1928.) Any family with less than \$1,000 a year lives in grinding poverty. Maybe! A house, a garden, a pig, a cow, and \$1,000 a year might not be too bad if one's tastes are simple and not inflated by social workers. At any rate, welfare checks being what they are, we wonder what may be the size of the "grinding poverty" group. Included among the poor are the unemployed, the handicapped, and the day laborers. Perhaps the most pitiable of the unemployed are those skilled and semi-skilled laborers layed off because of automation, by loss of demand for their product, or because they have priced themselves out of the market. Their lot may be remediable. Probably hopeless is the situation of the afflicted, the feeble-minded, and the adult illiterates.

It is doctrine that these poor inhabit rural and urban slums. And the slum environment propagates poverty by limiting the ambitions of the slum dwellers. They can have no vision of the better life. Slum dwellers become criminal because only the rich can afford honesty. The do-gooders believe that raising the incomes of these people and eliminating slums will automatically answer most of our social problems.

But will more money be the answer? Certainly a carpenter with eleven children to feed is poor. I know one who owns his home, his car, dresses his family neatly and always pays his bills. On the other hand there is a government worker who earns more than he, has ten children, and lives in the slums in obvious grinding poverty and filth. Much poverty, then, is simply the result of poor management. And how will Uncle correct that? Only by some sort of social receivership whereby the pauper handles none of his money.

Measures less dangerous to freedom will be taken first. No doubt every effort should and will be exerted to retrain older workers and to introduce new industry to depressed areas. Theoretically at least slum children should have the best of school facilities and teaching. Perhaps

superb schools would influence the young to rise above their seniors. We must presuppose educability. It is common knowledge among those who are not blinded by their ideals that a vast segment of our poor are slow learners. Where do the superb teachers who will improve these pupils come from? Will the brighter children in presently better schools be deprived and blighted by poorer teachers so that the better may be shifted to the slums? That will be a leveling process with a dreadful significance for our national future. To round out the picture of anti-poverty war, we will completely clean up the slums.

All this will require huge sums of money. No doubt the lot of many will be greatly improved, to the betterment of our society. But there will still be with us the incompetents, the lazy, the stupid, the psychopaths, the "unmodifiable human material". There will still be millions in the poverty class after vast expenditures. The liberals will then insist on the next step.

It should be obvious even today that it is inevitable that eventually Uncle Sam will be expected to guarantee each family \$3,000 per year. Such a policy would only cost about five or ten billion dollars a year. It might even be cheaper than other plans. Its proponents will ignore the fact that only a fool then would do menial labor. After years-long battling in Congress it will come. Those of us who have any regard for the security of our country can only hope that a compromise will be worked out which will afford some protection from this great avid pauper voting block of the future. First, any recipient of this dole must give up the franchise. Otherwise the enormous block voting power of the poor will be a dagger at the backs of the ambitious and hard-working people. Secondly, the payments will have to be made not in cash but in the form of food, rent, clothing, and hospital insurance coupons, cashable only by recognized business men. Otherwise the money will be frittered and society will still have the blight of grinding poverty to afflict its conscience.

Is this mere fantasy? A bad dream? Is not the end-point of a true war against poverty bound to be the demise of incentive?

GORDON W. JONES, M.D.

New Members.

The following members were received into The Medical Society of Virginia during the month of June:

Roy William Dent, Jr., M.D., Richmond
Arno Diedrich Hengst, M.D., Lynchburg
Richard Irwin Kent, M.D., Richmond
Otto Adolf Kurz, M.D., Falls Church
Henry David Lederer, M.D., Richmond
Frank Cyrus McCue, III, M.D.,

Charlottesville

Charles Lieben Park, M.D., Blacksburg
Donald William Richman, M.D.,
Martinsville

Baliant Jenő Rozsa, M.D., Alexandria
Leslie E. Rudolf, M.D., Charlottesville
Theodore E. Tamariz, M.D., Annandale
Charles Lewis Wells, M.D., Danville
Joseph Bernd Woodson, M.D.,
Alexandria

AMA Honors Dr. Hutcheson.

Dr. J. Morrison Hutcheson, Richmond, has been cited by the American Medical Association for his more than thirty years' service with the organization. He has completed his second five-year term on the five-member Judicial Council, the sometimes referred to "supreme court" of the AMA. Prior to this, Dr. Hutcheson served for 21 years as a delegate from The Medical Society of Virginia. He was presented with a bronze plaque at the annual meeting in San Francisco in June.

Roanoke Academy of Medicine.

Dr. W. Conrad Stone has been named president-elect of the Academy with Dr. Philip C. Trout, vice-president, and Dr. William H. Robinson, secretary-treasurer. Dr. Charles D. Smith will be installed as president in October, succeeding Dr. Louis Ripley.

Portsmouth Academy of Medicine.

Dr. Julius Caplan is the new president of the Academy, succeeding Dr. George H. Carr. Other officers are: president-elect, Dr. Arthur Kirk; secretary, Dr. L. L. Davis, and treasurer, Dr. R. M. Cox.

Lynchburg Academy of Medicine.

Dr. Francis R. Whitehouse has been named president-elect of the Academy. Dr. William H. Barney has been elected vice-president and Drs. G. Edward Calvert and Joseph Mathias were named to three-year terms on the Board of Trustees. Dr. Vincent Crowder was named to fill the unexpired term of Dr. Barney. Dr. Edward J. Stoll was re-elected secretary. Dr. Phillips R. Bryan will be installed as president.

Dr. Emmett V. Richardson,

Marion, has been named to the men's committee of the Japan International Christian University Foundation in New York City. The purpose of the committee is to enlist the aid of outstanding Christian laymen in securing support for the University in Tokyo, Japan.

Dr. Barry Decker

Has been appointed director of medical education at Richmond Memorial Hospital. This is a new position and Dr. Decker will assume his full-time duties on August 1st.

Dr. James B. Twyman,

Charlottesville, has received a citation for fifteen years of service with the local Draft Board.

Community Health Week.

The second annual Community Health Week, sponsored by the American National Association, will be observed October 18-

24. All communications media, particularly radio, television and newspapers, will encourage recognition of the achievements of medicine and public health during the past few decades, as well as point up the need for local responsibility for the development of community health facilities.

Congress on Diseases of the Chest.

The International Congress on Diseases of the Chest will be held in Mexico City, October 11-15, 1964. Physicians from more than fifty countries will present papers and discuss the recent advances in cardiovascular and pulmonary diseases. All physicians are invited to attend this Congress. Further information and registration blanks may be obtained from the American College of Chest Physicians, 112 East Chestnut Street, Chicago, Illinois 60611.

Department of Vocational Rehabilitation.

Virginia now has a Department of Vocational Rehabilitation. The new Department became effective July 1 as a result of action by the General Assembly. For many years, vocational rehabilitation came under the State Department of Education.

Responsible for the affairs of the new Department is the recently appointed State Board of Vocational Rehabilitation. The appointments, as announced by the Governor, are Mr. W. Harry Schwarzschild, Jr., Richmond, Chairman; Mrs. Curry Carter, Fishersville; Dr. A. Ray Dawson, Richmond; Mr. Floyd H. Armstrong, West Point; Mr. Thomas Malloy, Falls Church; Mr. Roland Walker, Kenbridge; and Mr. W. Earl Allen, Chatham.

Dr. Ralph G. Beachley.

On June 6th the Alumni Association of the George Washington University presented a citation to Dr. Beachley for his outstanding contribution as a teacher in the School of Medicine for the past twenty-five years. He has served as Adjunct and

Clinical Professor of Public Health Practice since 1939.

Dr. Beachley is also director of public health of Arlington County.

Dr. A. L. Herring,

Richmond, is the new president of the Virginia League for Planned Parenthood.

The Department of Neurology and Psychiatry

Of the University of Virginia School of Medicine announces openings for applicants for special training in Psychiatry. The purpose of this program is to foster the development of psychiatric training for non-psychiatric residents and to extend support to practicing physicians who want intensive psychiatric training but who do not intend to become psychiatrists. This new program is made possible through a grant-in-aid from the National Institute of Mental Health. A special training experience has been planned to fit the needs of such trainees. Part of the time will be spent on the Psychosomatic Consultation Service and part in General Psychiatry.

Trainees will fall into one of the following two categories:

1. Intensive Psychiatric Training for Non-Psychiatric Residents.

Available to residents in training in other specialties. This requires full time participation in the residency training program in psychiatry for not less than six months. The stipend for the non-psychiatric resident will be the same as the stipend for the psychiatric resident at the same stage of specialty training. This consists of \$4,200.00 for the first year; \$4,800.00 for the second year; and \$5,600.00 for the third year.

2. Psychiatric Training for the Non-Psychiatric Practitioner (who does not intend to practice psychiatry).

Candidates for this program should have completed four years of practice and/or training beyond the internship and the period

of training proposed should be for at least six months. The stipend for the period of this training will be \$1,000.00 a month. Emphasis in training will be on the training of the non-psychiatrist in the psychological aspects of medicine.

Interested physicians should contact Dr. Richard W. Garnett, Jr., Department of Psychiatry, University of Virginia School of Medicine, Charlottesville, Virginia.

Dr. William E. Moody,

Scottsville, has been elected first president of the local Chamber of Commerce. The organization meeting of the Chamber was held in June.

Blue Shield Benefits Top Billion Dollars.

Benefits paid by the 77 Blue Shield plans in the United States, Canada and Jamaica topped the billion dollar mark for the first time in 1963. A total of \$1,066,734,309 was paid to doctors for their services. Membership increased to an all-time high of 53,450,349.

Dr. Mason C. Andrews

Has been elected first chairman of the Norfolk Area Medical Center Authority. The authority was established by the 1964 General Assembly. It includes 40 acres from the Atlantic City Redevelopment Project near downtown Norfolk with the Norfolk General Hospital and King's Daughters Children's Hospital, the Medical Tower and the Public Health Building. Dr. Andrews is also a member of the Mayor's Advisory Committee on Establishment of a Medical School in Norfolk.

Dr. Lewis K. Woodward, Jr.,

Woodstock, has been named recipient of a Superior Honor Award by the Department of State. He has his office in Washington, D. C., and is the medical director of the Department of State and Foreign Service of the United States. The award was made in recognition of exceptional accom-

plishment, imaginative leadership and demonstration of high qualities of human understanding in the administration of the medical program of the Department of State.

National Tuberculosis Association.

Dr. William L. Cooke, a native of Newport News and a graduate of the Medical College of Virginia, has been elected president of this Association. He now lives in Charleston, West Virginia.

Dr. Francis H. McGovern,

Danville, has been appointed Virginia chairman of the Deafness Research Foundation of New York. He will act as spokesman for the Foundation at state and regional medical meetings, serve as liaison between the Foundation, the medical professional and the general public and answer inquiries about medical aspects of ear disorders.

Dr. Robert A. Hoffman,

Richmond, has been re-elected president of the Virginia Chapter of the National Kidney Disease Foundation.

Study of Lupus Nephritis.

The cooperation of physicians is requested in a new study conducted at the Clinical Center by the National Institute of Arthritis and Metabolic Diseases designed to further evaluate the effectiveness of corticosteroids in the treatment of lupus nephritis. As this type of study requires a carefully selected group of patients, the diagnosis of SLE must be definite and supported by a positive L.E. preparation. Laboratory evidence of renal involvement is essential but the BUN should not exceed 30 mg/100 ml. Patients with bleeding disorders, severe thrombocytopenia, psychotic episodes, advanced osteoporosis, and peptic ulcers are not suitable and those who are receiving high doses of steroids are not acceptable.

Physicians interested in having their patients considered for admission to this study should write or telephone: Dr. Joseph J.

Bunim, National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, Bethesda, Maryland 20014, telephone—49-64181 (Area Code 301), or Dr. F. Paul Alepa at the same address but telephone number is 49-63374.

Medical Building—Buckingham Community.

Available. Two suites, one for doctor and one for dentist. Located in community of 10,000 with immediate surrounding area of 20,000 more. This is a wonderful opportunity. Call Jackson 2-5000, Mr. Kettell, 313 North Glebe Road, Arlington, Virginia. (*Adv.*)

General Practitioner Wanted.

Thirty-seven-year-old white, well estab-

lished general practitioner wants a young general practitioner as associate in city in Virginia. No obstetrics. Salary the first year during trial period. New, large, modern office. Write #10, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Residency in Psychiatry.

Vacancy open in dynamically-oriented three year approved program closely affiliated with the University of Kentucky Medical School. Includes comprehensive instruction and supervised hospital and outpatient experience with children, adolescents and adults. Stipend \$4205 to \$11,725 per annum, U. S. citizenship required. Contact Chief of Staff, V.A. Hospital, Lexington, Kentucky. (*Adv.*)

Obituaries

Dr. Lee Edwards Sutton,

Former Dean of the Medical College of Virginia, died at his home in Richmond, June 24th. He was seventy-two years of age and a graduate of Harvard Medical School in 1921. Dr. Sutton served as Dean at the College from 1932 to 1942. He organized the present department of pediatrics at the College in 1938 and served as chief of pediatrics at the Crippled Childrens Hospital. Dr. Sutton had been professor emeritus of pediatrics since 1962. He received a citation from Virginia Polytechnic Institute in 1962. Dr. Sutton was a member of numerous medical organizations and had been an active member of The Medical Society of Virginia for thirty-five years.

His wife and two sons survive him.

Dr. Morton Morris Pinckney,

Richmond, died June 14th after a short illness. He was fifty-eight years of age and received his medical degree from the University of Virginia in 1930. Dr. Pinckney

served on the faculty of the Medical College of Virginia where he founded the endocrinology clinic. He served in World War II and with the rank of lieutenant-colonel was assistant chief of medicine of the 45th General Hospital in Italy. He was awarded the Bronze Star for meritorious conduct. Dr. Pinckney was a former president of the Virginia and Richmond Societies of Internal Medicine and was a member of the Constantinian Society. At the time of his death, he was president-elect of the Richmond Academy of Medicine and was the third consecutive president-elect to die before taking office. He had been an active member of the Medical Society of Virginia for thirty-two years.

His wife, two daughters and two sons survive him.

Dr. William Carthon Archer,

Waynesboro, died July 4th, at the age of ninety-one. He was a graduate of the former University College of Medicine,

Richmond, in 1898. Dr. Archer practiced in Amelia County before going to Augusta County in 1910. He had practiced there until his retirement in 1939. He had been a member of The Medical Society of Virginia for sixty-five years.

Two daughters and two sons survive him. A son is Dr. Harry Lee Archer of Charlottesville.

Dr. German Smith Hartley,

Prominent physician of Clifton Forge, died June 21st. He was eighty-three years of age and received his medical degree from the University of Louisville in 1908. Dr. Hartley practiced in West Virginia before locating in Clifton Forge in 1920. He was a former member of the Clifton Forge City Council and had served as Mayor of the City. He was a member of the School Board and City Health Physician. Dr. Hartley received his 50-year pin of membership in the Masonic Order in 1962. He was a member of The Medical Society of Virginia, having joined in 1922.

His wife, a daughter and three sons survive him.

Dr. Sylvester Patton Gardner,

Gate City, died June 9th after a long illness. He was eighty-seven years of age and received his medical degree from the Grant Medical School of Chattanooga in 1909. Dr. Gardner was company physician for the Stonega Coke and Coal Company for twenty-one years and practiced medicine in Scott County for thirty years. He was a member of the Masonic Lodge and the

Medical Societies of Tennessee and Virginia, having joined the latter in 1930.

His wife and two daughters survive him.

Dr. Thomas Addison Morgan,

Franklin, died June 18th after a short illness. He was fifty-two years of age and received his medical degree from the Medical College of Virginia in 1936. Dr. Morgan located in Franklin where he was associated with the late Dr. R. L. Raiford at the Raiford Memorial Hospital. At the time of his death, he was radiologist at the Southampton Memorial Hospital and medical examiner for Southampton County. Dr. Morgan was responsible for the first Red Cross Bloodmobile Bank in Southampton County and its first chairman. He had been a member of The Medical Society of Virginia for twenty-three years.

His wife, two sons and a daughter survive him.

Dr. Margaret Hatfield,

Formerly of Petersburg, died in Albany, California, May 9th, at the age of seventy-five. She was a native of Indiana, was a rural school teacher as a teenager, became a nurse in 1912 and served as a nurse and anesthetist during World War I, winning battle ribbons for her services at St. Mihiel, Verdun and Meuse-Argonne. Dr. Hatfield received her medical degree from the Indiana University in 1928. She won official commendation for her work during the great Ohio floods of 1937. She later specialized in mental health and was for several years located at Central State Hospital in Petersburg. She was a member of The Medical Society of Virginia.

Guest Editorial

The Consultation

THE PATIENT was lying in a hospital bed undergoing the usual emotional adjustments to a diagnosis of an acute myocardial infarction. With additional uneasiness he stated, "I don't know exactly how to go about this, and I hope you won't be offended, but to satisfy my wife and family, would you mind if we ask for a consultant?" It is a paradox that this patient had to subject himself to further stress for fear of the emotional reaction of his attending physician.

An evaluation of today's medical spectrum reveals the sub-specialists, usually in a teaching hospital set-up, at the one end and the practitioners in private practice at the other. Generally, it is in an acute situation with hospitalization that the physician then finds himself "threatened" with a request for a consultant. An acute illness in this scientifically charged atmosphere should alert the attending physician to this potential request.

It has been well established that given a patient, uninfluenced by relatives and friends, the decision for requesting a consultant is almost always left to his attending physician. This situation is a rarity, however, and one trusts that somewhere in the past a Chinese proverb was promulgated to the effect that the advice of kinfolk and friends takes precedence over the regimen prescribed by the physician. The higher the economic status, the more likely there will be a request for the "professor". The patient who might have qualms about antagonizing his doctor also has to live with his ubiquitous, if not always helpful, relatives and friends. Some argue that the appearance of a consultant

tends to dilute the effectiveness of the attending physician and, furthermore, it adds to the patient's financial burden. It is a foolish physician, indeed, who does not welcome the opportunity of having another share his responsibility and a prudent one who emphasizes the practical value of the consultant. A confirmed diagnosis and agreement in regimen lessens the medico-legal implications and enhances the soporific pleasures of the attending physician.

Unfortunately, humility is not always present in the physician's basic personality and in medicine, especially, this is a *sine qua non*. With this attribute, the patient's health takes priority over the physician's fear of an inadequate or mistaken diagnosis. Certainly the loss of patient confidence or other "complications" referable to the potential conflicting findings of a consultant should not be valid deterrents in this medical enigma.

To the perceptive attending physician, the consultant becomes a useful tool. In addition to the obvious benefits to be derived from the consultation, the interplay of anxiety often existing between patient and relative may be avoided by suggesting or agreeing with such a request graciously. This does not imply, however, that he become a mere pawn to the patient's whims. In the final analysis, the physician must make the decision that will be in the best interest of the patient. To accomplish this, one should recall Hamlet's advice, "Be not too tame neither, but let your own discretion be your tutor: suit the action to the word; the word to the action".

H. S. ZFASS, M.D.

2502 Monument Avenue
Richmond, Virginia

Stapedectomy with Vein Graft and Metal Prosthesis

One Year's Experience

A series of 324 stapedectomy procedures is reported. The procedure used appears to be a reliable one to restore significant hearing in otosclerotic conduction deafness.

ROUTINE STAPEDECTOMY for otosclerotic deafness has been our procedure of choice since 1959. Initially the procedure consisted of stapedectomy with vein graft and polyethylene prosthesis as originally described by Shea.¹ Early in 1962 the operation was altered by the use of the 4 mm. stainless steel prosthesis as designed by Robinson.² The reasons for the change to a stainless steel prosthesis were: (1) The metal prosthesis could be autoclaved, (2) The prosthesis could be secured to the incus and (3) The distal end of the prosthesis adapted to the vein graft covering of the oval window with a more satisfactory fit. Furthermore, from the literature there would seem to be less likelihood of host reaction to stainless steel than to polyethylene. (Figure 1.)

The preoperative data, the operative findings and details of the procedure were re-

CARY N. MOON, JR., M.D.
Charlottesville, Virginia

corded immediately following each procedure on an IBM Porta-Punch card. At one month, six months and, thereafter, twelve months hearing results were recorded on the same card. The use of the IBM card for recording this information was described by Shea in 1960.

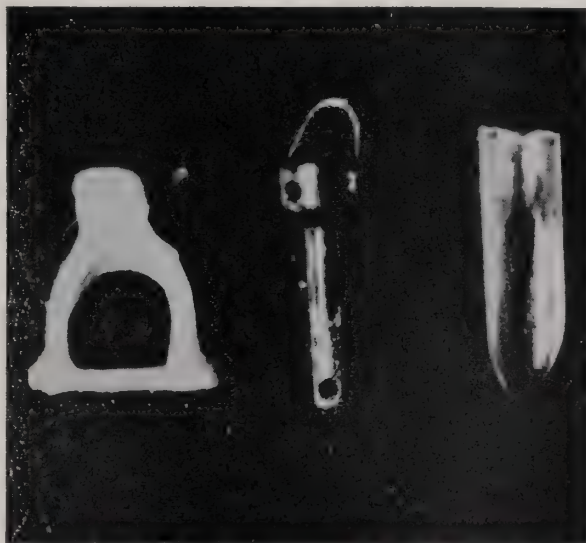


Fig. 1. Stapes. Robinson and Polyethylene Prosthesis.

The specific operative procedure will be briefly described. The ear canal and the dorsum of the hand are carefully prepared for surgery; anesthesia consists of local infiltration with Xylocaine 1% and Adrenalin 1 to 100,000. A centimeter section of suitable vein is removed from the dorsum of the hand. A posterior canal incision and elevation of skin, periosteum and tympanic membrane affords middle ear exposure. Adequate exposure of the stapes and oval window area is obtained by removal of the annulus bone of the posterior canal using the Shea-Austin mastoid drill. The chorda tympani is

From the Department of Otolaryngology, University of Virginia.

Presented at the meeting of the Virginia Society of Ophthalmology and Otolaryngology, Richmond, May 1963.

preserved whenever possible. The mucoperiosteum about the oval window is elevated and the stapedius muscle tendon is cut. The stapes is removed totally or partially to afford an adequate opening into the cochlear vestibule. An effort is made to prevent excessive removal of perilymph. The previously removed vein has been thinned, split, pressed and cut to size. This oval section of vein is positioned over the open oval window and depressed into the margins of the oval window. The 4 mm. stainless steel prosthesis is positioned onto the vein, depressed and snugged up on the lenticular knob of the incus. The wire handle of the prosthesis is swung over the end of the long process of the incus. Small pledgets of Gelfoam soaked in Tis-U-Sol are positioned on each side of the prosthesis shaft to help maintain the satisfactory position of the vein. A routine closure is done with Gelfoam over the canal incision.

The patient is permitted up the afternoon following surgery and the hospital stay generally does not exceed 24 hours postoperatively. The operated ear canal is left undisturbed for one month. On the initial postoperative visit one month later the canal is cleaned of the crusted debris and the first postoperative audiogram is done.

Prophylactic antibiotics have not been used in this series of procedures.

Statistical Report

This report consists of 324 procedures. Preoperative air and bone conduction levels were determined by averaging the decibel losses for 500, 1,000 and 2,000 cycles per second. Bone-air closure was determined when the postoperative air conduction decibel loss was within ten decibels of the preoperative bone conduction decibel loss. There were 298 operated ears that closed the bone air gap. This represented 92% of the total number of cases.

Medium hearing improvement was designated when the one month audiogram showed an average gain of 10 decibels or more but failed to be within the 10 decibel level

of the preoperative bone conduction. Twelve cases were in this group, 3.7% of the total number.

There were 14 operated ears in this total series that failed to show significant hearing improvement or lost hearing as a result of this procedure and are, therefore, classified as failures. This represents 4.3% of the 324 total of ears operated. (Table 1.)

TABLE I

EARS OPERATED.....	324	
Bone Air Gap Closure \pm 10 db....	298	(92 %)
Medium Improvement.....	12	(3.7%)
Failures.....	14	(4.3%)

Every failure in stapes surgery is significant and should be carefully reviewed as to cause and as to how this particular failure might be prevented in the future. The failure is most significant to the surgeon, to the patient and to the patient's family and friends. A high percentage of successful results means little to the patient with a useless ear following hopeful middle ear surgery.

These 14 or 4.3% failures occurred for the following reasons: error in diagnosis - 5, mechanical failure - 5, cochlear trauma - 3 and technical failure - 1. (Table 2.)

TABLE II
CAUSES FOR FAILURE

Stapes Mobile—Wrong Diagnosis....	5	
Mechanical Failure.....	5	
Technical Failure.....	1	
Cochlear Damage.....	3	(0.9%)

In the five cases of wrong diagnosis it was suspected that these individuals might not have stapes fixation but there were a number of other questionable diagnoses that turned out to be otosclerosis. Therefore, these five wrong diagnosis cases have to be included in the series. The patient has had a middle ear operation and has failed to gain hearing. The otological and audiometric workup has deceived the surgeon into considering this particular patient as a candidate for ear surgery. The exploratory surgery would seem justified when a complete audiological workup fails to clearly define the individual's suitability for surgery. Improved testing techniques and better inter-

pretation of audiological tests will help reduce these wrong diagnosis failures.

Special Cases

There were five so-called mechanical failures in that the postoperative audiogram was essentially unchanged as compared to the preoperative audiogram. There was no evidence of cochlear damage and apparently the operation failed to give the patient a mechanically functioning sound conducting system. This type of failure could result from round window closure or incus malleus fixation but these defects should be noted at the time of middle ear exploration. Three of these failures were re-explored. One was found to have a fibrotic mass filling the oval window which could have resulted from bone debris and blood under the vein graft. This did not appear to be otosclerotic closure. The revision resulted in a significant hearing improvement. Another re-exploration revealed serous fluid in the middle ear, mal-positioning of the prosthesis (the distal end was on the anterior bony lip of the oval window) and the incus and malleus were solidly fixed. A teflon prosthesis was inserted from the malleus to the vein graft oval window membrane with significant hearing gain. A third patient re-explored showed no particular cause for failure other than increased fibrosis in the oval window membrane. A repeat procedure resulted in only moderate improvement.

The one case of technical failure was a case of complete obliteration of the oval window niche and a bulging exposed facial nerve. The procedure was discontinued.

The three ears operated that resulted in additional cochlear loss represented 0.9% of the total number of operations. Two of these patients had had previous stapes surgery consisting of partial stapedectomies and depression of a mobilized footplate into the vestibule. The total stapedectomy resulted in additional cochlear loss in each case. One of these patients showed a cochlear loss to a degree contra-indicating any further surgery. The other has had a revision and has

a teflon piston showing some pure tone improvement but a useless ear by speech testing. The third patient had symptoms post-operatively suggesting a cochlear vestibule-middle ear fistula and at re-exploration a fistula was not found. A revision was done and the patient had severe postoperative vertigo with further cochlear loss.

In spite of this last described failure it is my opinion that any postoperative case having symptomatology of a vestibule leak should be re-explored. These symptoms consist of tinnitus, varying hearing levels and equilibrium disturbances. These latter may be actual bouts of labyrinthitis secondary to upper respiratory infections or merely head jerking sensations with certain head movements or with middle ear pressure changes. Occasionally a positive fistula sign can be elicited by air pressure against the tympanic membrane.

Miscellaneous Data

In this series of ears operated there were 99 men and 199 women, an approximate ratio of one to two.

The facial nerve was noted to lack all or part of its usual bony covering in the middle ear in 54 instances, a 17% incidence of facial canal dehiscence. This percentage incidence is undoubtedly a conservative one since a diligent search for facial canal dehiscence was not done. It was recorded when detected while doing the mucoperiosteal elevation up on the facial ridge from the oval window.

A motor driven burr was used on the promontory and/or the footplate in 63% of the cases. From these statistics there would appear to be no concern about the proper use of the drill. The burr should be revolving slowly and constantly in moisture. Tis-U-Sol irrigation is used to keep the area of contact cool and to remove bone debris. The use of the drill has been condemned by others who consider its use to contribute to cochlear damage. (Table 3.)

A very significant percentage of the success group showed postoperative air con-

duction levels greater than 10 decibels above preoperative bone conduction. This would seem to suggest our technique of mastoid prominence bone conduction determination

TABLE III

	Drill Used	Drill Not Used
Closure BA Gap.....	193	105
Medium Improvement .	7	5
Failures.....	5	9
	205 (63%)	119 (37%)

is quite variable in its degree of accuracy or that our interpretation of this bone conduction level is incorrect. (Table 4.)

There were 288 procedures done on ears that had had no previous middle ear surgery. In this series of virgin ears 270 closed the

The site of the otosclerosis was anterior in 65% of the ears operated, posterior in 5% of the ears operated and obliterative in 7% of the ears operated. (Table 6.)

TABLE IV

	B-A Closure ± 10 db	B-A Closure + 11 db
A.....	54	36 (40%)
B.....	48	25 (36%)
C.....	53	31 (37%)
D.....	30	11 (27%)
▼.....	5	5 (50%)
	190	108 (36%)

The Shambaugh Classification shows the failures to have occurred in Class C, Class D and in the ears with very severe mixed deafness. (Table 7.)

TABLE V

	B-A Closure	Med. Improv.	Failures
First Operation.....	270	10	8
ONE previous Stapes mob.....	20	1	2
TWO previous Stapes mob.....	6	1	1
ONE previous Stapedectomy.....	2	0	3
	298	12	14

bone air gap (94%), 10 showed medium improvement (3.2%) and eight were failures (2.8%). In the series of procedures done on ears having had previous surgery

As previously stated, prophylactic antibiotics were not used but antibiotics were occasionally employed when an upper respiratory infection became evident after sur-

TABLE VI
SHAMBAUGH CLASSIFICATION

		A	B	C	D	▼
Pathology Location	Anterior.....	63	48	51 (2)	26 (3)	7 (1)
	Posterior.....	5	4	4	1	0
	Circumscribed.....	7	9	12	5	2
	Obliterative.....	4	6	7	4	1
	Total Foot Plate Involvement....	11	6	10	5 (1)	0 (1)
	Total.....	90	73	84	41	10

there was a higher percentage of failure. The rate of failure was quite high in cases having had unsuccessful stapedectomies (Table 5.)

gery. One middle ear infection occurred in this series of 324 ears and responded to intensive antibiotics with complete recovery and closure of the bone air gap.

In 20 instances (7%) the stapes bone was mobilized and removed in one piece with closure of the bone air gap. In two instances the stapes was removed intact and later examination failed to reveal any microscopic evidence of otosclerosis. Both of these cases failed to show any hearing improvement.

TABLE VII
SHAMBAUGH CLASSIFICATION

CLASS	B-A Closure	Med. Improv.	Failures
A.....	90	2	0
B.....	73	4	0
C.....	84	5	4
D.....	41	1	6
▼.....	10	0	4
	298	12	14

Summary

A statistical review of 324 middle ear procedures for conduction deafness due to otosclerosis. There was closure of the bone air gap in 92% of the ears operated and no improvement or additional hearing loss in

4.3% of the ears operated. The failures were reviewed in detail.

Conclusion

Stapedectomy, complete or partial, with vein graft and stainless steel prosthesis appears to be a reliable procedure to restore significant hearing in otosclerotic conduction deafness. The use of the motor driven burr did not appear to be harmful. From this series of cases it would appear that prophylactic antibiotics are not necessary.

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Smoke from Charcoal Broiling

No ill effects resulting from charcoal-broiled food have been reported in man, according to Dr. Philip L. White, Sc.D., secretary of the American Medical Association Council on Foods and Nutrition.

The smoke which arises when drippings hit live charcoal used in outdoor grills is primarily from incompletely combusted fat, Dr. White explained in the August Today's Health magazine, published by the AMA.

"It is called thermal decomposition because fats begin to break down at temperatures under those required for ignition. The same thing happens when frying fat begins to smoke when overheated. It has been shown that fat, which is partially decomposed by heat, produces substances suspected of being hazardous. However, no inci-

dences of harm traceable to food have been reported in man. For that matter, research with appropriate animals likewise has failed to demonstrate any hazard."

To assure a more pleasant atmosphere when barbecuing, it is well to avoid the possibility of fat combustion as much as possible.

"The National Live Stock and Meat Board recommends that meat be cooked by the heat from the coals, not by fire. Any fires should be quickly extinguished by water. Coals should be spaced so that no two touch and adequate room is provided for fat to drip without coming into contact with the coals. Ideally, a drip pan should be used."

The Surgical Approach in Mentally Ill Patients

General Considerations and Case Presentation

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Surgery in mentally ill patients presents unique problems to the extent that it should be considered a distinct sub-specialty.

THE MAIN PROBLEM faced by surgeons working with mentally disturbed patients is the lack of a detailed history pertaining to the surgical illness. Since these patients, with very rare exceptions, are unable to provide the clinician with the necessary information concerning the character, duration, intensity and occurrence of symptoms, both surgical diagnosis and decisions are quite often made under strenuous conditions. There is probably no better place where the "open and see" attitude finds a full justification.

In the last ten years we have witnessed a magnificent step forward in the treatment of the mentally ill. A continuously increasing number of mental patients are now looking forward to the day when they will be sent back to their communities with a good chance to find an open door through which they may resume a normal life.

However, a large number of patients remain guests of mental institutions; like other humans they are apt to develop acute illnesses. These are to no degree less dangerous than at the time they occur in the mentally normal individual. It is our purpose

to show in this study the problems encountered in our institution with regard to the diagnosis and treatment of the surgical diseases in mental patients. Our case has been selected for the support of our statements, although it is by itself an interesting surgical case.

Whether it concerns a mentally retarded, a schizophrenic or a senile patient with a chronic brain syndrome, the surgical diagnosis in the mental patient is hindered by four factors:

(1) In the overwhelming majority of cases, there is no history of the present illness available: the patient is brought for surgical consultation when an obvious symptom has occurred (vomiting, melena, abdominal rigidity, bleeding, large tumors, swelling of extremities or joints, etc.). The patient is unable to describe any details concerning these symptoms.

(2) With an increased threshold for pain, there are usually no personal complaints: we have noticed spontaneously opened abscesses, as well as comminuted fractures of the extremities about which the patients had not complained in the least. The tolerated discomfort or pain is exceedingly high in these patients and this makes the diagnosis even more confusing.

(3) The incidence of patients with multiple chronic conditions, such as residual hemiplegia, diabetes, arteriosclerosis, is rather high and superimposed conditions can easily be passed unnoticed.

(4) With the present understaffing of the mental hospitals, a thorough and continuous examination of the patients is practically impossible: the scarcity of both

Approved for publication by the Commissioner of the Mental Health Dept.

physicians and nursing personnel makes it inevitable that only the obvious is recorded. We can hardly expect a detailed record of a woman's incidence, amount and character of bleeding, before we have to make the diagnosis of cervical cancer.

We could add, of course, other difficulties encountered in mental patients: the psychosomatic complaints, the personal fear or resistance towards examination and the masking of symptoms by the tranquilizing drugs. We have found that these particular problems are often encountered in the practice outside the mental institution and therefore do not represent necessarily major obstacles in a surgical diagnosis.

As for the surgical treatment of the mental patient, the difficulties are even greater: while the preoperative and peroperative management only require more careful detailing, the postoperative course is particularly hindered by the complete lack of cooperation in many patients.

The first step in the treatment of surgical ailments in these patients is concerned with their general condition: since a large number of patients are in the geriatric group, their electrolyte equilibrium is fragile at all times and any acute disease will eventually bring the balance down to an unacceptable value. At this point, both the preparation and the choice of type of treatment become extremely important: extensive surgical procedures can hardly be considered and only the absolute minimum necessary is done. Even for a limited procedure, extensive preoperative and postoperative therapy is often required. Since prior to surgery we take the patients off tranquilizing drugs, we often notice an increase in their resistance and apprehension. In the selection of a procedure, the future cooperation of the patient is possibly the most important factor considered. This is true especially in the treatment of fractures, where we do not expect a quiet, understanding patient who will take care of his position or cast. Moreover, in our experience, an increased number of patients had to be treated for

fractures by open reduction only because they would not offer the necessary cooperation. We have also seen, regrettably and quite often, casts removed from extremities by simple "picking" with the fingernails.

This lack of understanding of their problems is also reflected in the continuous removal of dressings, catheters, drains, intravenous sets, etc. We are much too often obliged to restrain the operated patient in order to give him the proper medication and care; they are using their ingenuity to a high degree to take off every item they don't understand around their body.

Under these circumstances, surgery in mental patients becomes quite a challenge. It is therefore understandable why some responsible authorities debate the need of surgery in these patients in itself; this debate does not apply, of course, to emergencies. Rather, the question is raised whether the mental patient really benefits from a surgical procedure which alleviates a chronic disease.

While we are not trying to solve this argument here, we feel obliged to state that the risk of complications such as hemorrhage, perforation and malignant degeneration is at least as great in mental patients as it is in the normal individuals. With the patient lacking interest in his personal troubles, it is not unusual to find a hemoglobin value as low as 3 Gm. due to a bleeding ulcer; they do not report their melenas. As for pelvic tumors which bleed, this is an incidental finding in most of our cases. At the time of surgery we are no longer surprised to notice the high incidence of malignancies superimposed on a gastric ulcer or a bleeding cervix.

To illustrate our point, we mention that in just four months, we had two patients with histories of gastric ulcers, treated off-and-on with diets and propantheline bromide; one of them suddenly developed an acute anemia which was not noticed until she reached shock, the other one became obstructed. At surgery, both were found to carry cancerous lesions of the stomach.

In just about the same interval, we had three cases of uterine cancer, with only discrete symptomatology. Surgery was performed after we made the diagnosis of uterine fibroids with irregular bleeding episodes.

There is only rarely a need for cosmetic surgery in the mental institution; but just because the mentally ill individual is less aware of his diseases, surgery has to be contemplated even more often and with more insistence than in the patient who can be instructed to check carefully on certain symptoms.

Moreover, the mental hospitals and particularly the state mental institutions have a large potential insofar as surgical research is concerned: due to its particular problems and challenges, surgery on mental patients represents, in our opinion, a specialty in itself. With the entire mental health field in the process of revolution, it should be given the attention required by an emerging medical specialty and particularly increased facilities for both therapy and research.

Case Presentation

Mrs. E. L., a 63-year-old patient who spent most of her life in our institution after being diagnosed at the age of 19 as *Dementia Praecox*, was incidentally x-rayed in 1949. At that time, the flat abdomen film revealed a shadow in the lower abdomen, which was interpreted as a soft tissue tumor. Since there were no complaints at all, this note was disregarded soon after. It was only in 1957 that this patient was labeled with the diagnosis of possible peritoneal carcinomatosis, after several examinations showed the presence of hard, tumor-like masses in the abdominal cavity. At the same time an umbilical hernia was noted; but no surgery was considered advisable at that time, particularly with reference to the malignant diagnosis suspected.

With the patient having no complaints for several years after these findings were recorded, it was not until 1962 that the con-

tinuous enlargement of the umbilical hernia brought again attention to this case. The hernia had become pendulous to the extent of being extremely uncomfortable for the patient. Once more, however, surgery was discarded, this time due to an appraisal of her general condition. It had been noted that this patient was having a hypertension, though easily controlled by reserpine. Moreover, it was thought that she might have an enlarged liver and spleen.

It was at this moment that we decided to reconsider the entire history of the patient. There was one diagnosis to challenge at the very first glance: carcinomatosis. Indeed, with the patient remaining in good health for several years, we considered that the abdominal tumors were rather benign: uterine fibroids or ovarian tumors were alternate diagnoses. If these tumors were big



Fig. 1

enough to occupy the entire abdomen, there was also a possibility that both liver and spleen were actually normal in size, with their evaluation being masked by the prominent tumors. In July 1963 we readmitted the patient to the surgical department. We noticed a rather obese, middle-aged female, totally indifferent to her surroundings, but cooperative in the simplest conversation. She seemed to care only about the mass she was practically dragging around (Fig. 1).

Physical examination revealed a slightly enlarged heart with normal sounds and a clear chest. She had some arthritic stiffness in her fingers. No ankle edema was noted

and no gross abnormalities found in other systems. The main feature was a very large abdomen, with a pendulous umbilical hernia which descended freely to the thigh level. Part of the contents of the hernia could be reduced into the abdominal cavity with some ease, but it seemed obvious that some contents were adherent to the hernial sac and could not be freed. On palpation we noticed several large, hard, nodular masses, with sizes varying from 8 to 15 cm. in diameter. These tumors could be moved around only slightly. Several other tumors, not clearly delineated, but very large in size, were noticed to fill up both flanks.

Laboratory examination included the entire battery of liver function tests, which were normal; there was only a trace of albumin present in the urine. A complete blood count revealed normal values. We also noted a report on a liver biopsy, dated January 1963 which stated "liver, consistent with cirrhosis".

An exploratory laparotomy was decided. After a thorough preparation the patient was readied for incision on July 18, 1963, under spinal anaesthesia with 12 mg. of pontocaine.

A large, elliptic incision was made and the peritoneum opened beneath the hernia. Several strong adhesions connecting intestinal loops to the hernial sac were divided and the entire cavity exposed to inspection. It was noted that a large cystic formation was present among the contents of the hernial sac and, on closer examination, this appeared to be a hydrosalpinx. A giant tumor, originating in the pelvis, with several large nodules attached to it, turned out to be a multinodular fibrotic uterus (Fig. 2). The splenic and hepatic lodges were actually occupied by enormous tumor masses measuring up to 15 x 18 cm. At the same time, we noticed that the gross appearance of both liver and spleen was normal, as were the other abdominal viscera.

A brief consultation was carried out with the anesthetist in order to evaluate general anaesthesia. Induction with ultrashort act-

ing barbiturates, followed by endotracheal intubation was decided and carried out without difficulty. To simplify the procedure we decided on a supravaginal hysterectomy, which was performed without incident. The hernial sac including the large



Fig. 2

skin flap was excised in its entirety and the abdominal wall was closed in layers. The patient left the operating room in good condition.

Subsequently, the recovery was uneventful and the patient healed in ten days. A laboratory report on the specimen defined the tumors as leiomyomas and cysts. Weight of the tumors: approximately 9.5 kg. (Fig. 3).



Fig. 3

In the evaluation of this case we had a number of doubts about the entire picture; but we considered that the repair of the umbilical hernia had become essential in order to make this patient more comfortable. The exploration of the abdominal cavity would then become just one step in

the surgical procedure, further decisions being dependent on the operative findings. As we reached the decision to operate, the choice of anaesthesia had become our main concern. First, there was a recorded diagnosis of hypertensive vascular disease, for which the patient had been placed on reserpine intermittently several months earlier; she had also been taking digitalis. However, our blood pressure readings were constantly within normal limits. Second, this patient presented a constant sinus tachycardia with a pulse rate of 110 per minute. This could have been a sign of chronic cardiac failure

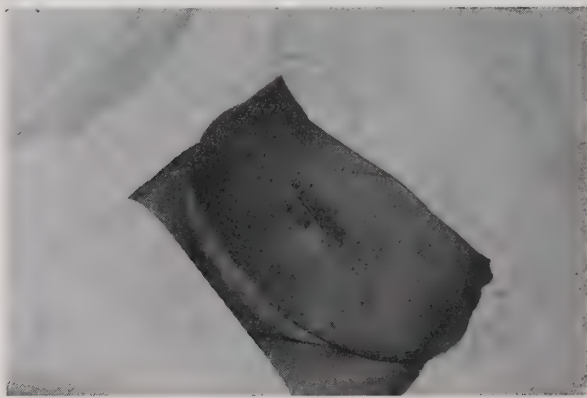


Fig. 4

as well as a sign of chronic hypoxia due to the large abdominal mass. Third, if portal cirrhosis with hepato-splenomegaly was present, the risk of hepatic failure through the use of such general anaesthetic agents like halothane has been reported. Finally, the abdominal mass itself was possibly creating disturbances in the respiratory and circulatory systems by the increased intra-peritoneal pressure and diaphragmatic elevation.

We decided therefore for a low spinal anaesthesia which was to be sufficient for the herniorrhaphy and a speedy inspection of the abdominal capacity. Once the diagnosis became evident, we agreed upon general anaesthesia and we decided to minimize the operating time by a simplified procedure. The final result was rewarding and the patient resumed her activities thereafter without further discomfort (Fig. 4).

Summary

The long-standing, hospitalized mental patient is subject to diseases requiring surgery as often as any other type of patient; however, the problems of diagnosis and treatment in these patients are complicated by several factors. Among these, the lack of history and cooperation of the patient are outstanding. Because the patients are not aware of their problems and physical troubles, the diagnosis can be easily overlooked. The increased threshold for pain makes them tolerate unusual lesions, which eventually exposes them to undesirable complications.

Detailed and thorough examination of these patients at very frequent intervals, with adequate promptness in performing indicated surgery, is a must in avoiding prolonged hospitalization periods for conditions not related to their mental problems.

Furthermore, morbidity and mortality rates can be lowered by carrying out surgical interventions before they become emergency procedures.

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Modification of Taylor Back Brace

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THE ORIGINAL TAYLOR BACK BRACE while very useful in certain cases was quite uncomfortable. Because of this plus the fact that it was almost impossible for a patient to put this brace on while in bed, I have made three small changes. The first change was to have the buckles of the straps anteriorly so they could be fastened by the patient. The second change was to have the strap inserted much lower than the original Taylor brace at about the level of the 12th dorsal vertebra. This allows the pull to be on the chest wall thus not irritating to the axilla. The third change, not always used, but if one desires to get a support much lower than the original Taylor brace, an extra pelvic band can be added, such as you would see in a Williams type low back brace.

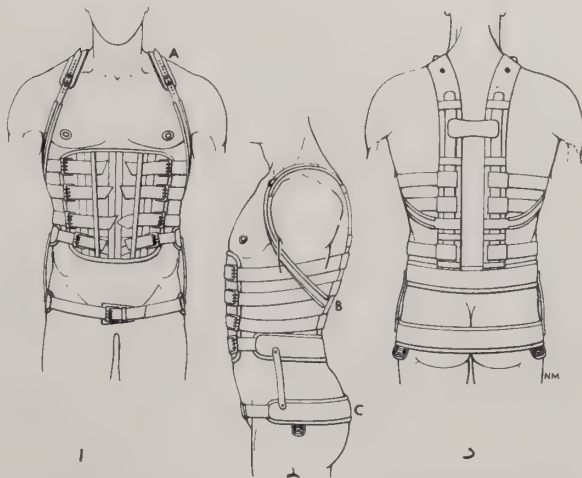


Fig. 1. Shows front view with anterior buckle at A.
Fig. 2. Shows low insertion of shoulder strap (about T-12) at B, thus the pull is on the chest wall, not the axilla.
Fig. 2 at C shows extra pelvic band, moveable, to allow sitting.
Fig. 3. Back view.

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Tuberculosis—Going, Going . . .

As a result of widespread use of the anti-tuberculosis drugs, the mortality from tuberculosis has decreased sharply, and the length of hospital stay and the relapse rate have also greatly decreased. Of all the people who have ever lived, more have died of tuberculosis than of any other disease. Our generation has been fortunate to have been given the tools with which this once dreaded disease may be eradicated. Let us not fail to use them wisely.—A. C. Cohen, M.D. in *Pennsylvania Medical Journal*, 67:2 (Feb.) 1964.

Seventeenth Century Comparative Medicine and Its Significance in Virginia History

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PART III

IT IS AN HISTORICAL FACT that the English won much of North America with rapidity. Within a century they conquered and populated a territory many times the size of the mother country in a day of primitive transportation and handicraft industry. They dislodged a well-established foe who knew the country, were experts at guerrilla warfare, and whose bows were as deadly as the English muskets.⁶⁷ In retrospect the English success seems so easy that we assume it was inevitable. In reality it was a triumph of naked human

the Indians were at the time of the Virginia conquest.

Our advantage today over a primitive people would be absolute, not only in fire power and supply but also in essential medical protection. But in 1600 physicians were nearly helpless and surgeons only less so. Their acumen and ability to heal seem to have been little better than those of the men of the day of Hippocrates; indeed, the teachings of that Greek were considered fundamental until well into the nineteenth century. In the day of the first adventurers, then, there was little science to better

TABLE II

English	Indians
I. Medicine	I. Medicine
A. Theory: disease caused by imbalance of humors	A. Disease caused by the intrusion of some evil spirit
B. Treatment	B. Treatment
1. Great emphasis on herbs, for the most part inert but of folkloristic value	1. Many herbs used, with similar magical overtones
2. Imbalance of humors corrected by:	2. The evil spirit drawn out by
a. bleeding, often heavy	a. bleeding of minimal quantity
b. cupping	b. sucking
c. local irritation	c. local irritation
d. sudorific drugs	d. sudorific drugs, sweat lodge
e. purging	e. purging
f. emesis	f. emesis not much employed
3. Incisions of edematous parts.	3. Release of edema by pricking and incisions.
II. Surgery	II. Surgery
1. Treatment of ulcers simple fractures, use of tourniquets adequate	1. Minor surgery similarly adequate
2. Amputations and such major surgery as lithotomy done	2. Apparently no major surgery
III. Beliefs	III. Beliefs
Christianity harshened by unfeeling cruelty (as evidenced by penal laws and public spectacles), intense superstition, fervid belief in witches and the Devil their master.	Complicated polytheism. They feared the Devil (Okee), were intensively superstitious, believed in witches (Adair saw a father murder a witch). No more nor less cruel than the English.
IV. Intellectual base.	IV. Intellectual base.
Great body of printed and manuscript material which recorded the acts of great leaders and the thoughts of great minds for two thousand years.	Oral tradition only. The light of a genius perhaps helped his own immediate fellows but his light was soon lost.

effort and courage unaided by science (except navigational science), a success story which it is hard for us pampered moderns to appreciate. Table II has been set up to show at a glance how remarkably evenly matched, in many respects, the English and

the primitive condition of men. Those Englishmen lived in the heyday of the humanities. The literature, language, and philosophy of the Ancients made up, in addition to theology, nearly the entire subject matter of education. The English were creating the great literature of their renaissance. But all this culture, this intellectual

This article began in the July issue.

creativity, afforded only a solace to the mind. The bodies were miserable and disease ridden. The general level of health among the English was certainly no better than that among the Indians. In practice, the treatments of the physicians of both races were strikingly similar. The Indian sought to drive out the evil spirit of disease by the same methods as the Englishman tried to redress the imbalance of the humors. The humoral hypothesis represented a more sophisticated approach and revealed a higher level of philosophy, but, broadly speaking, was little more valid than the intrusion hypothesis. Each hypothesis would seem to have been created to justify the same treatments, treatments both peoples had received from remote antiquity. In most respects the medications of the English physicians smacked of herbalism and magic. It is true that he no longer exorcised as did the Indian priest-physician. Having only lately cast off his priestly functions, the English doctor left it to his priest-king to wave away scrofula by his magic touch and to his priests to create a favorable impression upon God and thus promote the general health and gain protection from pestilence.⁶⁸

Here would seem to be the essential difference between the two medical systems: medicine and religion had been largely divorced among the English. The Church with the King at its head had taken over the more supernatural aspects of health. The physician could become pragmatic as in the days of Hippocrates. As the heir of two millenia of Western thought he was intellectually at a take-off point while the Indian was destined to remain static until the recent near extinction of his culture by the force of modern medicine. Study of the humanities had prepared Western man for new thought and freedom of thought and had prepared a seedbed for the reception of new ideas, all preserved by the written word and disseminated by the presses. But the Englishman of 1600 had no inkling of his brilliant medical future.

He met these Algonkian savages and

demonstrated a feeling of superiority and contempt. It is true that he was open-minded about the possibilities of Indian drugs; he was an herbalist himself. He recognized the frequent evidence of Indian medical ability. But in general he considered the Amerinds to be merely idolatrous illiterate savages. What was the justification for this sense of cultural superiority? What had the English people to date given the world? Their inestimable gifts in the fields of justice, personal freedom, parliamentary government, literature, and science were all in the future or in the early making. Their culture, including their Christianity, they had received from others almost in entirety; they were carriers of Western culture, not yet originators. The Indians whom they met were certainly neolithic savages. But each lived in a day of great ignorance of things natural. The gulf between them was surely smaller than that between us and our ancestors of 1600.

It would seem, then, that for the practical purposes of survival the two peoples were rather evenly matched. Why did the English win despite the liability of their long supply lines? The then-unrecognized formula was unbeatable: on the white man's side were his diseases, to some of which he was relatively immune, his numbers, and his statecraft. It is difficult to decide which one was the most important; failure is conceivable in the absence of any one of them.

Smallpox, measles, etc., wiped out resistance far faster than bullets. The process began with the 1585 adventure, as Hariot clearly noted. When a disease has a 15% mortality for one group and a nearly total one for another the former has a worthwhile advantage. Despite the probably then-known fact that the Cuban Indians had died by the thousand from Spaniards' diseases, despite Hariot's report, this potential advantage was apparently unrecognized by the planners in the Virginia Company.⁶⁹ The numbers of Indians who fell in battle or in massacres cannot now be toted. Perhaps no more than two thousand

of the estimated 9,000 Powhatans were thus killed.⁷⁰ Why was there only a broken remnant late in the century? The ravages of the white man's diseases form an obvious answer.

That Indian population of 9,000 constituted for years an absolute numerical superiority which could be effectively whittled away only by disease. It was, of course, limited to natural increase. The English, on the other hand, had an almost limitless reservoir of people made sufficiently desperate by poverty to be willing to gamble on the new world. In the one year 1619, for example, 1261 English settlers arrived, a seventh of the entire Indian population.⁷¹ They may have died almost as fast as they came, the survivors may have been decimated by the Indian massacre of 1622, but still they came, year after year. The technique of the "human wave" is not new. Despite the mortality there were 1275 whites in 1624, and 15,000 in 1648.⁷²

The above mentioned medical and biological advantages would have been unavailing without superior statecraft, an ability to carry out a plan with determination despite losses. This is where the discipline of civilization and the knowledge gained from the written record brought enormous advantage. The English had studied well the wars and intrigues of both ancient and medieval peoples. They understood the reasons for previous failures to colonize. The hindsight of civilization had thus given them judgment and foresight. The Indians were characteristically unable to carry out a prolonged policy. They had received no mental discipline from Greek intellectual ancestors. The Indian massacres of 1622 and 1644 were well planned but were not carried out to a definitive conclusion. The failure of the former was inexcusable from the Indian point of view. They had the numbers and advantages of situation; all they had to do was maintain the ruthless attack. They did not. Similarly, many years later in the Great Sioux Uprising 600 Indians gave up the siege of 250 whites

at New Ulm after but six days. Indeed, few are the instances of a masterly concluded campaign by unaided Indians.

Their civilization, then, afforded the English only one real advantage: statecraft. Their other two advantages were biological and little if any enhanced by scientific and medical knowledge. But the future was theirs. Upon the superb base of their studies of the humanities they could build our present civilization. Over the centuries that followed intellectual freedom and imagination born in their renaissance could run riot and create health luxuries. Indian medicine, however, could only remain folkloristic because of its lack of millenia of codified human thought upon which to build. The Indian physician was still incanting in the days of Lister and Reed.

FOOTNOTES

1. Captain John Smith: General historie of Virginia . . . 1584 to this present 1624. London 1632, p. 24.
2. Clark Wissler: The American Indian. Oxford University Press. New York, 1938, pp. 370-371.
3. See my article, "The first epidemic in English America" in Va. Mag. Hist. Biog. January, 1963, Vol. 71 pp. 1-10.
4. Very popular, for example, was Health's Improvement or rules comprizing. . . . nature, method, and manner of preparing foods used in this nation, first written by Thomas Moffet (1553-1604). It retained its popularity for two centuries. The copy at hand, xxxii, 398 pp., edited by Christopher Bennet, was published in London in 1746.
5. W.S.C. Copeman: Doctors and disease in Tudor Times. Dawson's, London, 1960, p. 133.
6. Probably of this sort was the famous and terrible "English sweat" of the sixteenth century. An influenzal type of disease may have been the cause of the mortality at Jamestown in the early 1620's. Influenza may have been the cause of Shakespeare's death.
7. Richard Mathews: The unlearned alchymist his antidote. London, 1663, p. 96.
8. Thomas Gibson: "De Mayerne's account of Prince Henry of Wales" Ann. Med. Hist. X: p. 550-560.
9. Francis Bacon: Sylva sylvarum. London, 1627, p. 264. Bacon accepted an astonishing number of sympathetic magical treatments without question. Since a wolf has a powerful digestion the skin or "guts" of the wolf applied against the abdomen will relieve colic. And so on. The Indians had identical ideas:

- eating certain parts of animals conferred the quality to the ingestor.
10. Robert Boyle. Of the reconcileableness of specific medicines to the corpuscular philosophy. London, 1685, p. 123. The dead hand was left on the young woman's neck until the coldness of it "penetrated the innermost parts of the tumour."
 11. Sir James George Frazer: The golden bough. Macmillan, New York 1961. Part 1, Vol. 1, p. 369.
 12. *Ibid.* Part VII, Vol. 2, p. 180.
 13. Fielding H. Garrison: An introduction to the history of medicine. W.B. Saunders, Philadelphia, 1917, p. 279. Powerful peers were as enthusiastic as any of the more illiterate yeomen. Almost incredible is the popularity of such tracts as *A late discourse made in a solemn assembly of nobles and learned men at Montpellier by Sr. Kenelm Digby*. On page 3 we read, ". . . the Powder of Sympathy doth naturally, and without any magick, cure wounds without touching them, yea, without seeing of the patient."
 14. Golden Bough Part II p. 95.
 15. The workes of the most high and mighty Prince James . . . London, 1616, p. 116.
 16. *Ibid.* p. 121.
 17. *Ibid.* p. 134.
 18. Witches apprehended, examined, and executed for notable villanies by them committed . . . London, 1613. This item is reproduced in part by permission of the Huntington Library, San Marino, California, who own the apparently unique copy.
 19. William Stith: The history of the first discovery and settlement of Virginia. Williamsburg, 1747, p. 116.
 20. Wyndham B. Blanton: Medicine in Virginia in the Seventeenth Century. Richmond, 1930, p. 130.
 21. A forme of common prayer to be used upon the eighth of July on which day a fast is appointed by his majesties proclamation for the averting of the plague and other judgements of God from this kingdom. London 1640. 86 pages.
 22. Christopher Merrett: A short view of the frauds and abuses committed by apothecaries as well in relation to patients as physicians. London, 1670, p. 8.
 23. Robert Boyle. Op. Cit. p. 187.
 24. See my article on the noted quack, Sir William Read, in Bull. Hist. Med. 37; 3, pp. 226-238.
 25. T.R. Forbes; "Midwifery and witchcraft" J. Hist. Med. and Allied Sciences. 17; 1962, pp. 264-283.
 26. Blanton, Op cit. pp. 167-168.
 27. Mathews, Op. cit. p. 16.
 28. Joh. Bapt. Van Helmont. Deliramenti catarrhi or the incongruities impossibilities and absurdities couched under the vulgar opinion of defluxions. London 1650, pp. 10-11. Von Helmont's alternative theory was little better.
 29. John Partridge: The treasure of hidden secrets. London, 1637, leaf B4.
 30. *Ibid.* leaf C2 verso.
 31. Such was the point of Richard Mathews' little tract.
 32. Baptista Mantuanus: De patientia. Basle, 1499, Book ii, chapter 3. See my article in Bull. His. Med. 36; pp. 148-162, 1962. Similarly, the Indians believed that a yellow root must be good for the patient who vomited yellow bile. See James Mooney, The sacred formulas of the Cherokees in the seventh annual report of the U.S. Bureau of American Ethnology, Washington, 1891, p. 329.
 33. Thomas Gale: An antidotarie conteyning hidde and secrete medicines simple and compound: as also all such as are required in chirurgery. . . . London, 1563, 180 pp.
 34. See Charles Singer's introduction in T. O. Cockayne, Leechdoms, wortcunning and starcraft of early England, Holland Press, London, 1961, pp. xl-xlv for a clear exposition of this problem. For instance, it was wasted effort to attempt to identify all the plants favored by Pliny. It is quite true, of course, that primitives have stumbled on useful drug effects of plants, *Rauwolfia*, for example. Far more often plant uses were imaginary. *Vinca* (periwinkle) has been used by such people for several purposes. Modern pharmacologists have found none of its folkloristic uses valid but have stumbled on an oncolytic effect!
 35. Partridge, op. cit. E1 verso and E2.
 36. These affinities are demonstrated clearly in the De Bry engravings in Thomas Hariot, Admiranda narratio fide tamen de commodis et incolarum ritibus Virginiae . . . Frankfurt, 1590.
 37. Benjamin Rush. "An inquiry into the natural history of medicine among the Indians of North America." extracted from Vol. 1 of Medical inquiries and observations. London, 1794.
 38. *Ibid.*
 39. See Eric Stone, Medicine among the American Indians, Hafner, New York, 1962 p. 76ff for a discussion of this interesting point. Hariot reported that the Indians used some sort of whitish clay in the treatment of wounds, much as the English used a similar earth (Hariot, op. cit., p. 8.)
 40. Op. Cit.
 41. Op. cit. p. 23.
 42. Louis B. Wright and Virginia Freund, editors: William Strachey. The History of travell into Virginia Britannia. Hakluyt Society, London 1953, p. 111. Strachey seemed to hold the Indians in more contempt than did most early observers. John Lawson in his History of North Carolina, Richmond, 1937 p. 231, gives high praise, as do many others.
 43. William Wallace Tooker: The Algonquian names of the Siouan tribes of Virginia. New York, 1901, p. 57f.

44. Rush, op. cit. Also L. H. Butterfield, ed. Letters of Benjamin Rush, Princeton, 1951 p. 1049. In this latter Rush ridiculed those who advertised their cancer cures as having been obtained from the Indians, observing that cancers were unknown among the Indians.
45. Saul Jarcho in the 1963 Garrison Lecture before the American Association for the History of Medicine.
46. Stone, op. cit., p. 22.
47. Hariot, op. cit. pp. 29-30.
48. William Thomas Corlett: The medicine man of the American Indian. Springfield, 1935, p. 76.
49. Mooney, op. cit. p. 333. Hugh Jones. *The present state of Virginia* New York, 1865 pp. 9-10.
50. Term used by President John Adams.
51. Robert Beverley: The history and present state of Virginia. London, 1705, Book III, p. 50.
52. Samuel Rivers Hendren. Government and religion of the Virginia Indians. Baltimore, 1895, 63 pages. All the early observers, from Hariot (p. 27) to Beverley (p. 39ff of Book III) were fascinated by the heathen religion.
53. To the present writer there is a striking resemblance of this good god to Christ. Once one has considered this possibility he sees that many of the characteristics of Okee resemble those of King James' Devil. It is easy to wonder if this good-god evil-god overlay upon a primitive nature worship may not be the result of some past Christian missionary teaching. The Jesuits did try to spread Christianity here in the 1570's. See Clifford M. Lewis and Albert J. Loomie. The Spanish Jesuit Mission in Virginia 1570-1572. Chapel Hill 1953, xviii, 284 pp. Possibly their "treacherous" christianized Indian associate turned prophet after their massacre. Such teachings may seem too recent to have been garbled by native shamans. There may well have been much earlier missionary attempts. According to a recent news item the University of Iowa is now investigating the discovery of crosses and beads in an ancient Indian mound.
54. Henry Spelman: "Relation of Virginia" in Edward Arber and A. G. Bradley ed. *Travels and Works of Captain John Smith*, Edinburgh 1910 pp. cv-cvi.
55. Thomas Glover. An account of Virginia . . . reprinted from the philosophical transactions of the Royal Society. Oxford 1904. For an interesting account of the abilities of primitive medicine men today see Harold B. Boyd, "I consulted with an African witch doctor" in *Medical Economics* June 20, 1960. It is hard to believe that the American Indian was any less skillful than his Negro equivalent.
56. Lawson, op. cit. p. 234.
57. *Ibid.* p. 231.
57. John Clayton: "Letter . . . giving . . . account of . . . Virginia" in *Miscellanea curiosa* Vol. III. Royal Society, London, 1708 p. 345 (both statements).
59. James Adair: The history of the American Indians. London 1775, p. 174.
60. The sources are in essential agreement concerning these treatments. They are detailed by Smith, Beverley, Timberlake, Mooney, Glover, Spelman, Strachey, Lawson, and others.
61. This last point the opinion of C. C. Jones in *Antiquities of the Southern Indians*. New York, 1873, pp. 359-365.
62. Op. cit. pp. 232-233. It is hard to resist comparing this treatment with that at the temples of Aesculapius in ancient Greece. There patients were licked by the sacred serpents and thus cured.
63. See my forthcoming article on miracle cures in early America. Details are given of cases and cures of three presumably hopelessly crippled women. Study show undoubtedly all three women were victims of hysteria.
64. Op. cit. p. 27.
65. George Devereux: Mohave ethnopsychiatry and suicide. Washington 1961. p. 16.
66. Iacobo le Moyne: *Brevis narratio eorumquae in Florida . . . acciderunt*. De Bry, Frankfurt, 1591 plate XVII.
67. Not a few old soldiers still murmured that the English longbow was a better weapon than the gun. It took a special act of the Privy Council in 1595 to stop the use of the longbow in warfare. Thus, the English colonists of 1607 were officially only twelve years beyond the age of the bow and arrow. See G. M. Trevelyan. *Illustrated English social history*. Longmans Green, London, 1951. Vol. 2, pp. 28-29.
68. See Copeman, op. cit. Even the great Linacre became more ecclesiastic than physician in his last years. Truth to tell, the parsons gave up their medical interests quite grudgingly and retained them for many generations. In the eighteenth century John Wesley wrote his immensely popular *Primitive physick* or, an easy and natural method of curing most diseases.
69. (Francis Bacon) The essayes or, counsels civil and moral of Francis Lo. Verulam. . . . London, 639, pp. 198-204. "Of Plantations" was written as an advice. Despite its obvious wisdom the Virginia planners heeded it only in part. However, the significance of Hariot's observations on the easy mortality of the Indians had even escaped Bacon.
70. Plus 1000-2000 Nottaways, Meherrins, etc. See Thomas Jefferson, *Notes on the State of Virginia*, London, 1787, pp. 151-152 In the following pages Jefferson discusses the rapid extinction of the Virginia Indians.
71. A declaration of the state of the colony and affaires in Virginia. London, 1620, pp. 9-10.
72. Mary Newton Stanard: *The story of Virginia's first Century*. Philadelphia, 1928, p. 187, p. 213.

2301 Fall Hill Avenue
Fredericksburg, Virginia

PRELIMINARY PROGRAM

117th MEETING

The Medical Society of Virginia

THE GOLDEN TRIANGLE
NORFOLK, VIRGINIA
October 11-14, 1964

PRELIMINARY PROGRAM
117TH MEETING
THE MEDICAL SOCIETY OF VIRGINIA

THE GOLDEN TRIANGLE

NORFOLK, VIRGINIA

OCTOBER 11-14, 1964

Sunday, October 11

9:30 A.M.

COUNCIL

Suite #700

1:00 P.M.

**HOUSE OF DELEGATES—
LUNCHEON MEETING**

East Ballroom

Monday Morning, October 12

9:00 A.M.

West Ballroom

Welcome and Preliminary Announcements—Harry M. Frieden, M.D., Chairman, Local Committee on Arrangements
Memorial Service

Scientific Program

John A. Martin, M.D., Roanoke, Presiding

9:05 A.M.—THE INEFFECTIVENESS OF ANTICOAGULANTS IN ACUTE MYOCARDIAL INFARCTION—
Albert J. Wasserman, M.D., Laurence A. Gutterman, M.D., Klara B. Yoe, M.D., V. Eric Kemp, M.D., and David W. Richardson, M.D., Richmond

The place of anticoagulation in the treatment of acute myocardial infarction is uncertain. To study this problem, 146 consecutive patients with acute myocardial infarction were randomly assigned to treatment with or without anticoagulants. All were admitted to a single ward and except for anticoagulation were cared for identically by the same physicians. This study suggests that anticoagulants should not be employed routinely in the treatment of acute myocardial infarction.

9:20 A.M.—GASTROINTESTINAL HEMORRHAGE 1946-1956: A FOLLOW-UP AFTER SEVEN TO 17 YEARS—Benjamin B. Weisiger, M.D., Richmond

In 1958 we reviewed all cases of severe gastrointestinal hemorrhage admitted to McGuire Veteran's Administration Hospital during the years 1946 through 1956. There were 148 patients with a total of 189 admissions. Results showed the majority to have peptic ulcer, cirrhosis or gastritis. Nine per cent were due to unknown causes. Since it has been shown that most peptic ulcers recur within five years, we have followed up these cases to determine the subsequent course of gastric, duodenal and marginal ulcers, and those patients treated medically and surgically.

9:35 A.M.—THE CHANGING INDICATIONS FOR SURGERY IN THYROID DISEASE—Claiborne W. Fitchett, M.D., and C. Carroll Smith, M.D., Norfolk

This paper will review two series of thyroidectomies done in the same geographical area and reported twenty-four years apart. By comparing these groups of cases, a remarkable change in the indications for thyroid surgery were found. There was a great decrease in all thyroid surgery, but especially in surgery for toxic thyroids. As a result of this, there has been a relative increase in surgery done for non-toxic nodular goiters, thyroid carcinoma and chronic thyroiditis.

9:50 A.M.—LIMITATIONS OF THE ORAL CHOLECYSTOGRAM—H. F. Conquest, M.D., and Henry S. Spencer, M.D., Richmond

The oral cholecystogram is an extremely important diagnostic aid, but it is not without limitations. The more important limitations are discussed, together with problems relating to filling defects seen within the gallbladder. Helpful technical details in gallbladder radiography are suggested.

10:05 A.M.—THE EARLY AND LATE TREATMENT OF INJURIES OF THE HAND AND UPPER EXTREMITY—C. C. Coleman, Jr., M.D., Richmond

Treatment of upper extremity injuries is determined by many factors. Extent of the injury, its location, and time elapsed following the trauma are all important variables. This paper will establish basic principles and methods of repair in a wide variety of hand and forearm injuries. Preoperative photographs have clearly defined the anatomic and physiologic deficits in the cases to be presented.

10:20 A.M.—DUPUYTREN'S CONTRACTURE—Robert L. Payne, Jr., M.D., Norfolk

Dupuytren's contracture is a condition about which many misapprehensions still exist. A brief review of the etiology, pathology and diagnostic findings will be followed by a discussion of treatment. Many cases need no surgical treatment and do not progress to true contracture. Selection of the proper procedure for each patient is stressed. Illustrative slides will be used.

10:35 A.M.—INTERMISSION TO VISIT EXHIBITS

11:00 A.M.—THE COMPLEXITY OF MAJOR SALIVARY GLAND DISEASE—John A. Gill, M.D., Richmond

Major salivary gland disease resulting from primary, parenchymal inflammation, obstruction due to stones, cysts and tumors of limited capacity for spreading cannot be regarded as a threat to survival. Yet the management of these conditions in most instances must be meticulous and critical because of the minuteness of the anatomy involved and the intricate and intimate association with important structures of the head and neck. This aspect of the management of so-called benign, major salivary gland situations will be discussed with the aid of illustrations and photographs.

11:15 A.M.—BREAST CANCER PROGNOSIS—EVALUATION OF LONG-TERM SERIES OF PRIVATE PATIENTS—Armistead M. Williams, M.D., Richmond

This paper will deal with an evaluation of a fairly large series of patients with cancer of the breast from five to twenty or more years follow-up. It will attempt to establish from statistical analysis the prognosis in regard to cancer type and stage of the cancer with respect to the presence or absence of metastases at the onset of treatment.

11:30 A.M.—NEUROOTOLOGIC ASPECTS OF CEREBELLOPONTINE ANGLE TUMORS—J. Parker Cross, Jr., M.D., Norfolk

Approximately 200 cases of unilateral cerebellopontine angle tumors covering a ten year period were studied at the Mayo Clinic by the author during his fellowship. Lesions evaluated included neurilemmomas of the 8th cranial nerve, meningiomas, astrocytomas, dermoids, and even less frequently occurring entities. The symptoms are frequently presented singly to practitioners of many different phases of medicine, making the problem one of general interest.

11:45 A.M.—MEDICAL ASPECTS OF SKIN AND SCUBA DIVING—Thomas W. Sale, M.D., Hampton

Skin diving and the use of scuba have become very popular. Associated with the increased participation in this sport are certain medical problems. This paper attempts to aid the practitioner in advising patients

interested in diving. The prevention and treatment of the more commonly encountered medical conditions associated with scuba diving are presented.

12:00 Noon—*Guest Speaker*—Donovan F. Ward, M.D., President-Elect, American Medical Association, Dubuque, Iowa

Monday Afternoon, October 12

See special section on luncheons, committee meetings and special events.

3:00 P.M.

Reference Committee #1

Fourth Floor Annex

Reference Committee #2

Fourth Floor Annex

Tuesday Morning, October 13

9:00 A.M.

West Ballroom

J. A. White, M.D., Virginia Beach, Presiding

SYMPOSIUM ON EMERGENCIES

This symposium, arranged by popular demand, is designed to emphasize those emergencies frequently encountered in the categories listed below. The differential diagnosis and treatment will be stressed.

Planned with the cooperation of the Virginia Academy of General Practice, this symposium is acceptable for six accredited hours by the American Academy of General Practice.

9:00 A.M.—*Guest Speaker*—Floyd S. Cornelison, Jr., M.D., Professor and Head, Department of Psychiatry, Jefferson Medical College, Philadelphia, Pennsylvania—SUICIDAL EMERGENCIES

9:20 A.M.—*Invited Speaker*—William Shapiro, M.D., Assistant Professor of Medicine, Medical College of Virginia, Richmond—CARDIAC ARRHYTHMIA

9:40 A.M.—*Invited Speaker*—Lewis H. Bosher, Jr., M.D., Associate Professor of Surgery and Chief, Section of Cardiac and Vascular Surgery, Medical College of Virginia, Richmond—ROLE OF SURGERY IN ACUTE HEART FAILURE

10:00 A.M.—*Guest Speaker*—Brian B. Blades, M.D., Professor of Surgery, George Washington University, Washington, D. C.—ESOPHAGEAL EMERGENCIES

10:20 A.M.—*Guest Speaker*—William Glenn Young, M.D., Associate Professor of Surgery, Duke University School of Medicine, Durham, North Carolina—RESPIRATORY EMERGENCIES IN THE NEW-BORN

10:40 A.M.—INTERMISSION TO VISIT EXHIBITS

11:00 A.M.—*Invited Speaker*—James B. Littlefield, M.D., Associate Professor of Surgery, University of Virginia School of Medicine, Charlottesville—CARDIO-PULMONARY RESUSCITATION

11:20 A.M.—*Invited Speaker*—William M. Eagles, M.D., Clinical Assistant, Neurological Surgery, Medical College of Virginia, Richmond—THE UNCONSCIOUS PATIENT

11:40 A.M. *Invited Speaker*—William R. Jordon, M.D., Associate Professor of Medicine, Medical College of Virginia, Richmond—DIABETIC COMA

12:00 Noon—Panel discussion—featuring written questions from the floor. Owen Gwathmey, M.D., Richmond, Moderator

Tuesday Afternoon, October 13

2:00 P.M.

West Ballroom

Thomas S. Edwards, M.D., Charlottesville, Presiding

**CONTINUATION—
SYMPOSIUM ON EMERGENCIES**

2:00 P.M.—*Invited Speaker*—John William Dickerson, M.D., Norfolk—OCULAR EMERGENCIES

2:20 P.M.—*Invited Speaker*—David M. Hume, M.D., Chairman, Department of Surgery, Medical College of Virginia, Richmond—HEMORRHAGE OF THE UPPER GASTRO-INTESTINAL TRACT

2:40 P.M.—*Invited Speaker*—Levi Old, Jr., M.D., and T. L. Stokes, M.D., Norfolk—RUPTURE OF THE SPLEEN

3:00 P.M.—*Invited Speaker*—William R. Sandusky, M.D., Professor of Surgery, University of Virginia School of Medicine, Charlottesville—INJURIES OF THE PANCREAS

3:20 P.M.—*Invited Speaker*—H. Hudnall Ware, M.D., Chairman, Department of Obstetrics and Gynecology, Medical College of Virginia, Richmond—ECTOPIC PREGNANCY

3:40 P.M.—Panel discussion—featuring written questions from the floor. Robert L. Cassidy, M.D., Culpeper, Moderator

Wednesday Morning, October 14

9:15 A.M.

West Ballroom

John A. Martin, M.D., Roanoke, Presiding

9:15 A.M.—*Guest Speaker*—Leonard W. Cronkhite, Jr., M.D., General Director, The Children's Hospital Medical Center, Boston, Massachusetts—MAN IN SPACE

9:45 A.M.—*Invited Speaker*—W. T. Thompson, M.D., Professor and Chairman, Department of Medicine, Medical College of Virginia, Richmond—TREATMENT OF PULMONARY EMPHYSEMA
Emphasis will be placed on the pathophysiology of obstructive pulmonary emphysema with treatment directed toward altering or modifying the basic defects.

10:05 A.M.—*Invited Speaker*—Julian R. Beckwith, M.D., Professor of Medicine, University of Virginia School of Medicine, Charlottesville—THE SELECTION OF PATIENTS WITH HYPERTENSION DUE TO RENOVASCULAR DISEASE
The subject will be briefly reviewed and a description of the various procedures employed to separate patients with renovascular disease from patients without this condition will be outlined. A series of 16 to 20 patients who have been subjected to renovascular surgery will be reviewed and follow-up results reported.

10:25 A.M.—Intermission to Visit Exhibits

10:45 A.M.—*Invited Speaker*—V. Eric Kemp, M.D., Chief, Cardiovascular Section, McGuire V. A. Hospital, Richmond—CORONARY ARTERIOGRAPHY IN THE LIVING HUMAN
Experience with approximately 1,000 individual selected coronary arteriograms in 140 living human beings, performed in the author's laboratory, will be reviewed.

11:05 A.M.—*Guest Speaker*—Donald B. Effler, M.D., Chief, Department of Thoracic and Cardiovascular Surgery, Cleveland Clinic, Cleveland, Ohio—PRESENT STATE OF SURGERY OF THE CORONARY ARTERIES

11:35 A.M.—Panel discussion—Kinloch Nelson, M.D., Richmond, Moderator

SCIENTIFIC EXHIBITS

Scientific Exhibits will be located in the President's Room on the Mezzanine

Training the Mentally Retarded—Benedict Nagler, M.D., and Mr. Charles O. Wills, Colony

The importance of training and habilitation of the mentally retarded patient is illustrated by an exhibit of art and craft products made by student-patients at Lynchburg Training School & Hospital.

Newer Diagnostic and Treatment Methods for Gonorrhea—Harry Pariser, M.D., A. D. Farmer, B.A., and Mr. A. F. Marino, Norfolk

Since the diagnostic methods and treatment for gonorrhea have changed considerably in the last few years, this exhibit, based on personal experience with a large series of cases, was prepared to summarize these facts for the profession.

The Basic Small Laboratory—C. M. G. Buttery, M.D., Rocky Mount

Adequate examination and diagnosis are not possible without an adequate laboratory. Many physicians are not within reach of a local laboratory, do not wish to mail samples, and consequently fail to get necessary tests. This exhibit shows how to obtain your own laboratory.

Oral Therapy in Diabetic Management—James M. Moss, M.D., Alexandria; DeWitt E. DeLawter, M.D., Bethesda, Maryland; Edward J. Gallagher, M.D., Fairfax; and Sidney A. Tyroler, M.D., Arlington

The results obtained from the treatment of 900 patients with either tolbutamide, chlorpropamide or phenformin in the past seven years is presented.

Chromosomal Abnormalities in Mongolism—Reuben B. Young, M.D., and Ralph Ownby, M.D., Richmond

Photographs of chromosome karyotypes, diagrams, charts and microscopic demonstration illustrating various types of chromosomal abnormalities in mongolism. Charts will also present recurrence risks.

Umbilical Lesions in Infants and Children—George A. Harkins, M.D., Norfolk

A sinister variety of pathology centers around the umbilicus in the pediatric patient. Examples of these lesions are presented in photographic form, and treatment discussed. Of a special interest are recent significant advances in the management of babies and children with omphalocele.

Peripheral Vascular Diseases—Eugene L. Lowenberg, M.D., Norfolk

1. Acute arterial occlusion; 2. Leriche's syndrome in relatively young women; 3. Trans-axillary, trans-pleural upper dorsal sympathectomy; 4. Acute pulseless disease due to ergotamine tartrate.

The Surgical Management of Thromboembolic Disease—Moheb A. S. Hallaba, M.D., Richmond

The exhibit will demonstrate the techniques and overall results of thrombectomy, femoral vein and vena caval ligation, and pulmonary embolectomy in the management of thromboembolic disease. We have used all three modalities with varying degrees of success.

Clinical Application of Bone Scanning with Strontium 85—Carl P. Wisoff, M.D., and Donald E. Chambers, M.D., Norfolk

Bilateral Congenital Diaphragmatic Hernia—Claiborne W. Fitchett, M.D., Norfolk

A pictorial description of a repair of a very rare type of congenital hernia.

The Tidewater Committee for the Study of Pelvic Cancer—Brock D. Jones, Jr., M.D., Fred T. Given, M.D., and G. Fletcher Rieman, M.D., Norfolk

In order to improve the diagnosis and treatment of pelvic cancer in Tidewater Virginia, the Committee is interviewing patients and recording pertinent data and evaluating all cases for delay factors. A professional educational program is carried out at dinner meetings with discussion of outstanding cases. Literature on the results of this study is made available to physicians in the Tidewater area.

Emphysema—A Leading Cause of Disability—M. Jane Page, M.D., Richmond

The exhibit shows in sequentiality illuminated panels the statutory definition of disability, the incidence of emphysema among our disability beneficiary population, and the kinds of clinical and other data that should be included in a medical report for a patient with emphysema.

Do Your Patients Have the Right to Happiness?—Virginia League for Planned Parenthood, Richmond

Don't duck your responsibility for assistance in family planning—reverence for life and basic human needs.

SPECIAL EVENTS

Sunday, October 11

Virginia Academy of General Practice

Breakfast—Board Meeting—Suite #600—7:30 A.M.

Council Meeting, The Medical Society of Virginia
Suite #700—9:30 A.M.

House of Delegates, The Medical Society of Virginia
Luncheon Meeting—East Ballroom—1:00 P.M.

International College of Surgeons, Virginia Surgical
Division

All-Day Meeting—Chesapeake Room—Details to
be announced

The Norfolk Symphony Orchestra
Pops Concert—Center Theatre—8:30 P.M.
Subscription: \$4.00

Monday, October 12

VaMPAC
Breakfast—Board Meeting—Private Dining Room
A—7:30 A.M.
General Session—East Ballroom—3:00 P.M.

Virginia Diabetes Association
Breakfast—Private Dining Room B—7:30 A.M.

Virginia Academy of General Practice
Luncheon—East Ballroom—1:00 P.M.

Virginia Chapter, American College of Chest Physi-
cians
Luncheon—Private Dining Room B—1:00 P.M.

Virginia Radiological Society
Luncheon—Suite #800-801—1:00 P.M.

Virginia Section, American College of Physicians
Luncheon—Nations Room—1:00 P.M.

Virginia Society of Internal Medicine
Membership meeting to follow meeting of Virginia
Section, American College of Physicians
(Nations Room)

Virginia Orthopaedic Society
Luncheon—Suite #600-601—12:30 P.M.

Virginia Urological Society
Luncheon—Private Dining Room A—1:00 P.M.

Virginia Obstetrical & Gynecological Society
Luncheon—Suite #700-701—1:00 P.M.

Virginia League for Planned Parenthood
Medical Advisory Committee will meet in Suite
#700 immediately following luncheon meeting
of the Virginia Obstetrical & Gynecological So-
ciety

Virginia Society of Plastic and Reconstructive Surgery
Luncheon—Room E200—1:00 P.M.

Virginia Surgical Society
Luncheon—West Ballroom—12:45 P.M.

Virginia Flying Physicians Association
Special program featuring H. B. Gowin, FAA In-
spector—Chesapeake Club Lounge (Golden
Triangle)—2:30 P.M.

Reference Committee #1
4th Floor Annex—3:00 P.M.

Reference Committee #2
4th Floor Annex—3:00 P.M.

Medical College of Virginia Alumni Association
Cocktail Party—East Ballroom—6:00 P.M.
Banquet—East Ballroom—7:00 P.M.

University of Virginia Alumni Association
Cocktail Party—West Ballroom—6:30 P.M.
Banquet—West Ballroom—7:30 P.M.

George Washington University Medical Alumni
Association
Cocktail Party—Suite #800—6:00 P.M.
Banquet—Suite #700—7:00 P.M.

Tuesday, October 13

Virginia Industrial Medical Association
Breakfast—Suite #700-701—7:30 A.M.

Virginia Society of Internal Medicine
Executive Committee Breakfast—Suite #800—
7:30 A.M.

House of Delegates, The Medical Society of Virginia
Second Session—Key Club, 4th Floor Annex—
3:30 P.M.

The Medical Society of Virginia
Cocktail Party—East Ballroom—6:30 P.M.
Banquet—West Ballroom—7:30 P.M.

Norfolk County Medical Society Hospitality Suite—
Room 1101—Entire Meeting

The annual golf tournament will be held on Monday,
October 12, at the Bow Creek Golf and Country
Club, located on Virginia Beach Boulevard. The
Club is easily reached from the Golden Triangle and
is a most attractive course. It will be most helpful if
those planning to compete will notify the State Office
at their earliest convenience.

Skeet enthusiasts will be pleased to learn that a skeet
tournament will be held on Monday, October 12, at
the Izaak Walton Gun Club. The Local Committee
states that guns will be available. Here again, it will
be helpful if those planning to compete will advise
the State Office of their plans.

The possibility of organizing a Virginia Chapter of
the American College of Surgeons will be discussed
during the luncheon meeting of the Virginia Surgical
Society on October 12 at 1:30 P.M.

TECHNICAL EXHIBITS

Technical Exhibits will be located on the Mezzanine.

ABBOTT LABORATORIES, North Chicago, Illinois

AMERICAN CASUALTY COMPANY, Roanoke, Virginia

ARNAR-STONE LABORATORIES, INC., Chicago, Illinois

BRISTOL LABORATORIES, Syracuse, New York

BURROUGHS WELLCOME & COMPANY, INC., Tuckahoe, New York

CIBA PHARMACEUTICAL PRODUCTS, Summit, New Jersey

THE COCA COLA COMPANY, Atlanta, Georgia, and Norfolk, Virginia

COTTRELL ELECTRONICS CORPORATION, Richmond, Virginia

DAVIES, ROSE & COMPANY, LTD., Boston, Massachusetts

ENCYCLOPAEDIA BRITANNICA, Chicago, Illinois

GEIGY PHARMACEUTICALS, Yonkers, New York

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, Pearl River, New York

ELI LILLY AND COMPANY, Indianapolis, Indiana

McNEIL LABORATORIES, INC., Fort Washington, Pennsylvania

MEAD JOHNSON & COMPANY, Evansville, Indiana

THE NATIONAL DRUG COMPANY, Philadelphia, Pennsylvania

ORTHO PHARMACEUTICAL CORPORATION, Raritan, New Jersey

PEOPLES DRUG STORES, Washington, District of Columbia

PFIZER LABORATORIES, New York, New York

PHYSICIANS PRODUCTS COMPANY, INC., Petersburg, Virginia

PIEDMONT AVIATION, INC., Norfolk, Virginia

WM. P. POYTHRESS & COMPANY, INC., Richmond, Virginia

R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, North Carolina

RICHMOND SURIGICAL SUPPLY COMPANY, Richmond, Virginia

A. H. ROBINS COMPANY, INC., Richmond, Virginia

ROCHE LABORATORIES, Nutley, New Jersey

J. B. ROERIG AND COMPANY, New York, New York

ST. PAUL INSURANCE COMPANIES, St. Paul, Minnesota

SANBORN COMPANY, HEWLETT-PACKARD COMPANY, High Point, North Carolina

SANDOZ PHARMACEUTICALS, Hanover, New Jersey

W. B. SAUNDERS COMPANY, Philadelphia, Pennsylvania

JULIUS SCHMID, INC., New York, New York

G. D. SEARLE & COMPANY, Chicago, Illinois

SMITH, KLINE & FRENCH LABORATORIES, Philadelphia, Pennsylvania

THE STUART COMPANY, Pasadena, California

E. R. SQUIBB & SONS, New York, New York

SYNTEX LABORATORIES, INC., Palo Alto, California

U. S. VITAMIN & PHARMACEUTICAL CORPORATION, New York, New York

VAN PELT AND BROWN, INC., Richmond, Virginia

WALLACE LABORATORIES, Cranbury, New Jersey

WARNER-CHILCOTT LABORATORIES, Morris Plains, New Jersey

WARREN-TEED PHARMACEUTICALS, INC., Columbus, Ohio

WESTWOOD PHARMACEUTICALS, Buffalo, New York

REPORTS FOR 1964 ANNUAL MEETING

Executive Secretary-Treasurer

It seems difficult to realize that your Executive Secretary-Treasurer is now in his fifteenth year with the Society. Yet, it is true, and one cannot help but gaze backward and note the changes that have taken place during those years which have passed all too quickly. In so many ways the work of the Society now bears little resemblance to that of fifteen years ago. This is not just true with The Medical Society of Virginia—it is true of every medical society in the country. Medicine has acquired new problems and new jobs. It has been challenged by forces unknown just a few short years back, and has had to reappraise its role in this ever changing world.

This is why the question of dues has a habit of cropping up all too often in all medical associations. Just in case we might be giving someone the wrong impression, let us say hurriedly that this is not a lead-up to a recommendation for a dues increase—perish the thought! What we are saying is that it costs more today to do the job the profession wants and expects than it did fifteen years ago. We like to think that the additional dollars you now pay in dues buy better service and better results.

Since we do operate in an era of rising costs and never-ending demands upon our personal resources, it is not surprising that the membership of a professional association would, and should, want to have some concrete examples of those services made possible by its dues.

Although we must admit to being somewhat prejudiced, we have no hesitancy in saying that the annual dues of \$40 constitute one of the real bargains of the day (only one society has lower dues of \$35). It is unfortunate that so many of the benefits of membership are of an intangible nature. They exist nevertheless.

Realizing that it would not be practical to list every service provided by the Society, we have attempted to outline just a few of them for presentation purposes.

National Legislation: The Society has spearheaded the battle in Virginia to defeat King-Anderson legislation. The closest possible contact is maintained with our Senators and Congressmen and, at the present time, Virginia can boast the finest record of any State. Should a vote be taken today, the board would record two Senators and nine Congressmen sharing medicine's views and one Congressman probably opposed.

We have, for the past five years, held a luncheon at the Capitol in Washington for our Congressional delegation. There is no doubt but that the ties between the profession and our Congressmen are stronger than at any time in the past.

State Legislation: The Medical Society of Virginia is the watchdog of the profession where State legislation is concerned. The General Assembly nearly always look to the Society for advice and guidance when considering bills having major medical implications. Most of the credit for obtaining enabling legislation for Kerr-Mills in Virginia belongs to the Society's Legislative Committee. Also, the fact that nearly eight million dollars in federal, state and local funds was made available to this program for the biennium beginning July 1 is a credit to our own Advisory Committee to the Department of Welfare. This

Committee has met on many Sunday afternoons with Welfare officials in an effort to develop the most comprehensive Kerr-Mills program anywhere.

Perhaps it should be said here that Society representatives have been asked to testify many times before committees of the General Assembly. At the national level, the Society has three times offered testimony on legislation having to do with health care of the aged.

Insurance Programs: The Society sponsors the finest professional liability program anywhere. This program alone saves many of our members up to three times the amount of their annual dues. This is a benefit of membership that everyone can understand and appreciate.

In addition to the professional liability program, the Society sponsors two fine sickness and accident programs, a major hospital program, a business overhead expense plan, a savings and retirement plan, and the finest accidental death, dismemberment and disability coverage available on today's market.

Virginia Medical Monthly: This publication is the voice of the medical profession in Virginia and has been judged one of the ten outstanding medical journals in the country. It features selected papers and editorials, special pages on public health and prepaid medical care, a special news insert, etc. The Monthly is another tangible benefit of membership.

Committees: More than thirty committees are responsible for Society activities. The Grievance Committee has been of inestimable value in bringing about a better understanding between physician and patient and, consequently, reducing the number of malpractice suits. Along this same line, we can point with pride to our Liaison Committee to the Virginia State Bar. It was through the work of this Committee that the Joint Medico-Legal Panel for screening medical malpractice cases was developed. This Panel has met on some six occasions to consider alleged malpractice claims, and it has proved itself an effective and objective body. With increased utilization, it will undoubtedly do much to help eliminate malpractice suits which are truly without merit.

Allied Organizations: Society officials meet regularly with representatives of the Virginia Pharmaceutical Association, Virginia Dental Association, Virginia Hospital Association, Virginia Association of Nursing Homes, Virginia Bar and the Virginia Council on Health and Medical Care. Many mutual problems can and are being solved in this manner.

The Medical Society of Virginia invited the Virginia Hospital Association, Virginia Association of Nursing Homes and the Virginia Dental Association to join with it in establishing a Virginia Joint Council to Improve the Health Care of the Aged. The Council now meets quarterly and provides an excellent means for coordinating activities in this particular area.

The Medical Society of Virginia is also joining with several other professional associations (engineers, architects, etc.) in forming a Virginia Association of Professions. This Association will bring about a closer liaison between those professions which have so much in common.

The Virginia Medical Political Action Committee

(VaMPAC), as you know, might well be called a child of the Society. In addition to urging its formation, the Society has made a number of substantial contributions to its educational program. The true value of VaMPAC and AMPAC will undoubtedly be demonstrated during this vitally important election year.

Personal Services: The State Office receives an average of thirty requests each week from individual members and others requiring assistance. For example, during the last three days we received requests to complete two applications for licensure by reciprocity, two requests for placement assistance, four requests for information on relative value schedules, two grievances, two requests for insurance brochures, requests from two hospital administrators for information on hospital utilization controls, an inquiry from New York having to do with Virginia's sterilization law, three requests from AMA for special information, a request from the Department of Health, Education and Welfare concerning laboratories operating in Virginia, two requests for Addressograph services, a request for a transcription series on mental health, and an inquiry concerning the Joint Medico-Legal Screening Panel.

We honestly could go on and on, but it would probably take too long. For example, we have not touched on the Society's work as contracting agent for the Medicare program. Neither have we mentioned the cooperative role of the Society in the physicians' draft—nor its active public relations program.

Membership: An effort is being made to bring all eligible physicians into The Medical Society of Virginia, and it is good to report that we have met with considerable success. A total of 210 new members during the year may well be a new record and the net increase of 103 is far and away the best of recent years.

Members reported		
July 31, 1963		3,136
New members	210	
Reinstated	6	

Increase		216
Deaths	44	
Resignations	46	
Dropped	23	

Loss		113
Net Increase		103
<hr/>		
Total Membership July 31, 1964		3,239

Finances: It is with great satisfaction that we report that your Society has never operated on a more sound financial footing. By all means study the auditors' annual report which will be published in the December issue of the Virginia Medical Monthly.

Annual Meeting: The 1964 Annual Meeting should be one of the most attractive in years. In addition to an excellent scientific program, it will offer such attractions as good entertainment, golf and skeet tournaments, a special "pops" concert by the Norfolk Symphony Orchestra, and a post-convention trip to Bermuda! The Local Committee on Arrangements deserves a world of credit.

National Meetings: The Society was well represented at the Annual and Interim Sessions of AMA, the AMA Public Relations Institute, Regional Conference on National Emergency Medical Services, Annual Meeting of the Professional Convention Management Association, a meeting of Southeastern States Executive Secretaries, Regional Meeting of the American Medical Political Action Committee, National Conference of State Mental Health Chairmen, AMA Legal Conference, Conference on National Legislation, a Post-Graduate Course sponsored by the Medical Society Executives Association, and a National Conference for State Journal Editors.

Headquarters Building: We are learning the hard way that maintaining a building—even a comparatively new one—is not the easiest job in the world. Now that we seem to have the leaking roof "almost" licked, the heating and air conditioning systems are beginning to act up! Somehow the failures always seem to occur on the day of an important Council or committee meeting.

Last year we expressed the fear that the Virginia Hospital Association would soon be leaving its second floor offices for want of additional space. We are pleased to report that the move has not yet occurred, and we hope that VHA will somehow find it possible to stay with us.

Personnel: There has been no increase in the number of full-time staff employees. As a matter of fact, the number has remained at four since 1953, when it was reduced from five. Between the years 1950 and 1952 the staff had numbered six. It is quite probable, however, that another full-time secretary will have to be employed if our work volume continues to increase. The fact that no increase has been found necessary to date can only be attributed to the dedicated efforts of Miss Watkins, Mrs. Spring and Mr. Smith.

The Medical Society of Virginia has been blessed through the years with strong and able Presidents, and this last year has been no exception. Dr. Palmer has given unselfishly many hours of his time and handled successfully some of the most difficult problems of recent years. He was assisted by a Council which refused to sidestep the controversial issues, and made decisions which reflected a dedication and determination most refreshing in these troubled times.

ROBERT I. HOWARD
Executive Secretary-Treasurer

AMA Delegates

It is, of course, not possible to cover all of the important matters considered by the AMA House of Delegates during its meeting in San Francisco from June 21-25. Your delegates would, however, like to report some of the more interesting matters which required House action.

New Officers: Dr. Norman A. Welch of Boston was installed as successor to Dr. Edward R. Annis. Dr. Donovan F. Ward, Iowa, was named President-Elect. Elected to the Board of Trustees was Dr. Alvin J. Ingram, Tennessee, who succeeds Dr. R. B. Robins, Arkansas.

Tobacco and Health: The House approved a strong stand on tobacco and health by calling cigaret smoking "a serious health hazard". This action was taken after

the reference committee on Public Health and Occupational Health considered 10 resolutions and a Board of Trustees report on the subject and heard considerable testimony. In adopting a four-point reference committee report, the House said "the American Medical Association is on record and does recognize a significant relationship between cigaret smoking and the incidence of lung cancer and certain other diseases."

It urged that programs be developed to disseminate vital health education material on the hazards of smoking to all age groups through all means of communication. The House also recognized the contribution of the Surgeon General's Committee in its comprehensive report. And it emphasized that a joint committee of the AMA and the National Education Association already has adopted a resolution urging elementary and secondary schools to include programs on smoking and health in their health education curricula.

Finally, the House said that the delegates and the Board of Trustees "should take great pride in the establishment of the research program on tobacco and health that is being carried out by the AMA Education and Research Foundation."

In adopting the report of the AMA-ERF the House called attention to the following statement:

"The Board of Directors of AMA-ERF and the Board of Trustees of the AMA were clearly aware of the possibility of criticism in accepting this grant (10 million dollars from several tobacco companies). But against that possibility they weighed the potential benefits to the public who will continue to smoke and concluded that the risk was insignificant by comparison. The only hope of minimizing the hazards of smoking lies in research which points to the course that the AMA as well as others must take."

Human Rights: On the major issue of human rights the House declared itself "unalterably opposed to the denial of membership, privileges and responsibilities in county medical societies and state medical associations to any duly licensed physician because of race, color, religion, ethnic affiliation, or national origin."

This action was taken after the reference committee had heard a detailed discussion and had considered four resolutions on the subject.

In addition, the House called "upon all state medical associations, all component societies, and all individual members of the AMA to exert every effort to end every instance in which such equal rights, privileges and responsibilities are denied."

Continuing Medical Education: An AMA-sponsored survey and accreditation program in continuing medical education was authorized. Attention will be concentrated on institutions and organizations offering courses rather than individual courses, and appraisal of an institution's program will be carried out only when it is requested.

Cost of Medical Care: The House received a four-volume report by the AMA Commission on the cost of medical care and paved the way for consideration during the 1964 Clinical Session of the Commission's conclusions and recommendations.

Also received was a report from the Board of Trustees reaffirming AMA policy favoring federal grants for "bricks and mortar". These grants are used for construc-

tion and renovation of medical schools, hospitals, related institutions, and mental health centers. The report urged, however, that the advantages and desirability of multiple source financing be kept clearly in mind.

Social Security: The House rejected a proposal to poll all AMA members concerning compulsory Social Security for self-employed physicians. It was stressed that the House of Delegates expresses the majority sentiments of constituents on all questions brought to its attention.

Medical Ethics: Endorsement was given an expanded program on medical ethics. The program is designed to educate physicians and the public on what medical ethics means to them and just how medical ethics affects them. The Judicial Council will have the responsibility of implementing the program.

Communications: Also endorsed was a three-point communications program designed to improve the public relations position of the profession. The program calls for a redoubling of efforts by county and state societies, close liaison with media personnel, and the prompt dissemination of information to state societies concerning AMA news releases and testimony.

Prepayment Subsidization: The House expressed opposition to federal subsidization of prepayment plans and health insurance companies. It also called for a study of the development of state programs which utilize prepayment plans or health insurance companies in the implementation of the AMA portion of Kerr-Mills.

Dues: The House referred the question of a further dues increase to the Board of Trustees for study and report at the 1964 Clinical Meeting in Miami.

Miscellaneous Actions: In considering a wide variety of resolutions and reports, the House also:

1. Approved the creation of the Section on Allergy on recommendation of the Board of Trustees.
2. Approved a comprehensive inquiry of the causative factors for the sharp increase in syphilis and gonorrhea and urged the AMA to "take leadership in educational and research measures designed to control and eliminate syphilis."
3. Okayed a national conference on areawide planning of hospitals and related health facilities, to be sponsored under the auspices of the AMA.
4. Agreed to continue and broaden studies on the problems of unwed mothers, illegitimacy and other related matters and to develop positive preventive programs.
5. Supported a position statement on protecting children against physical abuse and called for legislative guidelines to the states relative to legislation on this matter.
6. Asked the Board of Trustees to investigate establishment of a wire communications system between AMA headquarters in Chicago and offices of state medical associations.
7. Referred to the Council on Medical Service a resolution condemning the practice by some hospitals of adopting constitutions which deny staff privileges to physicians not eligible or certified by specialty bodies or societies.

8. Agreed with the Board that a forum for representatives of national medical specialty societies and the American Academy of General Practice to be held on November 1, 1964, in Chicago.

9. Recommended that the Board of Trustees use the talents of Dr. Edward R. Annis, immediate past president, and other qualified spokesmen for medicine with appropriate remuneration.

10. Requested clarification of the ethical and legal limitations of physicians participating in court-ordered, pre-trial psychiatric examinations.

11. Urged the AMA to continue its vigorous opposition to tax regulations discriminating against "professional associations" and "professional corporations," and its support of legislation which seeks to provide tax equality with business corporations for "professional associations" and "professional corporations".

W. LINWOOD BALL, M.D.

ALLEN BARKER, M.D.

RUSSELL BUXTON, M.D.

EDITOR'S NOTE:

We regret to report that Dr. Vincent W. Archer was unable to attend the meeting because of an accident, but The Medical Society of Virginia was fortunate to have Dr. Russell Buxton, one of its distinguished past presidents, serve as Dr. Archer's alternative.

Membership

Your Committee is pleased to report that no problems were referred to it during the past year, and, consequently, no meetings were found necessary.

Once again, the names of all new members have been published in the Virginia Medical Monthly, and we shall, in the interest of space, not list them here for a second time. We are, however, particularly pleased with the continued growth of the Society, and urge each new member to avail himself of the many benefits of membership. He will find the Society an excellent medium through which to make a real contribution to the profession.

Your Committee is proud and honored to nominate Dr. Richard E. Palmer for honorary active membership in The Medical Society of Virginia. Dr. Palmer joins the list of distinguished presidents who have guided the Society through the most crucial days in the history of the profession.

F. H. MCGOVERN, M.D.

DONALD H. MCNEILL, M.D.

MILTON R. STEIN, M.D.

Judicial

The amendments to the Constitution and By-Laws contained in this report are presented by the Judicial Committee for consideration by the House of Delegates.

CONSTITUTION

The following amendment to the Constitution is proposed:

Article VI—Council

Beginning with second sentence, amend to read as follows:

The Council shall consist of one member from each Congressional District of the State, together with the President, President-Elect, First Vice-President, Immediate Past-President and the Speaker of the House of Delegates. The Council shall invite to sit with it, regularly or on special occasions, such consultants as it deems desirable.

(The purpose of this amendment is to restrict the voting membership of Council to elected members, while providing for advice from any source which might be helpful).

BY-LAWS

Article I—Membership in the Society

Amend first sentence of third paragraph of Section 1 to read as follows:

Active members who move out of the State may become associate members of the Society.

(Only the word "may" is added).

Article IV—General Meetings

Delete Section 9.

(The purpose of this amendment is to eliminate a section which has never been used, but conceivably could be implemented to accomplish undesirable ends).

Article V—House of Delegates

Amended by deleting last sentence of Section 1 and substituting the following:

As the first order of business at each annual session, the House of Delegates shall adopt Rules of Procedure to govern the conduct of business during the session. Between sessions the Council shall review the Rules previously used and recommend to the House any changes considered advisable.

(The purpose of this amendment is to give formal approval to the procedure by which the Rules of Procedure are established).

Article VIII—Council

Amend Section 1 by deleting the first and fourth sentences.

(The purpose of this amendment is to avoid repetition by eliminating what is already found in the Constitution).

Amend Section 2 by changing the first sentence to read as follows:

Each Councilor shall be the organizer and advisor for his District.

(The purpose here is to eliminate the word "censor", which no longer appears applicable).

Article IX—Standing Committees

Amend second sentence of fourth paragraph to read as follows:

The chairmen of all standing or special committees shall have the privilege of the floor when reporting to the House or in any incidental discussions.

(The purpose of this amendment is to eliminate language which serves no apparent purpose).

W. CALLIER SALLEY, M.D., *Chairman*
JOHN R. SAUNDERS, M.D.
GUY W. HORSLEY, M.D.

Ethics

Once again your Committee is pleased to report that no problems serious enough to require formal meetings were brought to its attention during the year.

It is interesting to note, however, that the question of physician ownership of pharmacies continues to arise. Since AMA has made it quite clear that physician ownership, or operation, of a pharmacy is not unethical provided there is no exploitation of the patient, your Committee would like to point out the responsibility of local medical societies in making sure that the principles of medical ethics are not violated.

The Judicial Council of the American Medical Association, commenting on this question, has made the following statement:

"It is the opinion of the Judicial Council that this language was adopted to permit both the practicing physician and the local medical societies to evaluate the many factual situations incident to prescribing and dispensing which are bound to arise in the practice of medicine. Under this language the doctor is permitted to exercise his own best judgment when caring for his patients. It is known that there will be situations when it is necessary or desirable for a physician to dispense or supply what he has prescribed. The Principles permit this to be done. On the other hand, this broad language provides a means by which a component medical society can inquire into the facts of a particular practice. The profession thus can act to prevent abuse of discretion and protect patients from exploitation. In essence this language means that a physician in the exercise of sound discretion may dispense 'in the best interest of his patient'; it does not authorize him to dispense solely for his convenience or for the purpose of supplementing his income."

RUSSELL G. MCALLISTER, M.D., *Chairman*
ROBERT P. TRICE, M.D.
A. L. VAN NAME, JR., M.D.

Public Relations

Your Committee, in its report last year, spoke very frankly about the so-called "physician image". Should you not remember its words, it said in effect that it doubted if the "image" was nearly as bad as some would have the American people believe. Now it turns out that your Committee could be either right or wrong—depending upon your individual viewpoint.

What has happened is this. A national poll has revealed that the "image" of the physician is better than all other professional groups—and is topped only by that of the U. S. Supreme Court! We must admit to being just a bit bewildered—but the poll was serious.

It seems that each year we stress the fact that medicine's public relations, be it good or bad, is fashioned right in the office of each practicing physician. All the public relations directors, committees, and consultants in the country cannot begin to get the job done. Only the

individual physician can really mold public opinion. Those of us on committees can only help as much as possible. The truth of this statement is evident when one considers that over one hundred grievances were received by the State office during the past twelve months! One cannot help but wonder how many were not reported for one reason or another. Also, we must ask ourselves how many of these grievances could have been stopped at the very beginning if all physicians concerned had been PR conscious.

Once again we believe you will be interested to learn of some of the public relations activities sponsored by your Society during the year. First of all, we wish to report that Senior Day Programs were presented for senior medical students of our two medical schools. The program in Charlottesville featured an excellent dinner at the Pantops Restaurant and a fine talk by Mr. Richard Nelson, Field Service Representative of AMA. That in Richmond was held at the Richmond Academy of Medicine where another excellent dinner was followed by an equally fine talk by Dr. Thomas W. Murrell, Jr. Both talks covered many of the problems facing physicians in active practice, and stressed the importance of each physician acquainting himself with the issues and accepting community responsibility.

The Medical Society of Virginia, for the seventh consecutive year, presented special awards to the winners of 4-H Club health projects. The presentations were made at VPI by Dr. James Peery, representing the Committee on Rural Health, and we repeat our hope that this project will be sponsored for many years to come.

Interest in the use of medical emergency symbols is growing over the nation and Council requested your Committee to work with the Virginia Council on Health and Medical Care and other interested groups in developing a program for Virginia. The Committee was represented by its Secretary at several sessions arranged by the Council on Health and Medical Care and it is good to report that a sound, low-cost emergency symbol program should be in operation by late fall.

We are particularly proud of a unique series of televised "Health Talks" sponsored over WRVA-TV (Richmond) by The Medical Society of Virginia. This series of more than 90 five-minute programs was offered on a daily schedule during the winter and early spring, and the moving spirit behind it was our Committee Vice-Chairman, Dr. Thomas W. Murrell, Jr. The series featured well-known state and national health authorities and was reported by AMA in its "AMA News". Some TV stations in other parts of the state are presently borrowing some of the tapes which are of particular interest in their viewing areas.

The groundwork has been completed for a proposed one-day symposium on "Medicine and Sports" and it is hoped that such a program can be presented during the summer of 1965. The Committee has been in contact with the Virginia High School League and has every reason to believe that a cooperative venture will be the result.

Two members of the Committee attended the annual AMA Institute in Chicago. We were very pleased to note that this year the Institute returned to the type program it featured when first presented some ten years ago. The

program was basic and extremely practical—providing a review of some of the “old reliable” PR projects like emergency call systems, mediation committees, etc., and showing how to accomplish other projects new to the PR scene.

The medical assistant movement continues to grow in Virginia, and your Committee works with the state association as closely as possible. The Chairman has been an advisor—both active and honorary—since the association was first organized. During the past year, he attended most meetings of the state association board in addition to its annual meeting and special one-day symposium.

Once again your Chairman served as a member of the Special Advisory Committee to the National Junior Chamber of Commerce. It can be said without contradiction that the JC's of this country are among our better informed citizens on matters pertaining to the nation's health. The Special Advisory Committee has for some years interested itself in numerous health projects at the community level.

And so it goes—every hour of every day—public relations in one form or another. Our present-day physicians simply cannot escape the fact that they are practicing public relations all the time. It might not always be what we wish—but it is public relations just the same. Keep that always in mind, and remember that PR also means something else—personal responsibility.

JOHN WYATT DAVIS, JR., M.D., *Chairman*

Editorial Board

The disbursements (\$24,529.20) are running ahead of the receipts (\$20,506.06) for the first ten months of the current fiscal year but barring unforeseen major expenses during August and September the total cost of publishing the Virginia Medical Monthly will fall well within the budget (\$35,000).

The state medical journals throughout the country are continuing to feel the sharp reduction in advertising by drug companies as a result of the Congressional investigation several years ago. This, in turn, has curtailed the number of pages in the journal, with a corresponding lessening of space for scientific articles. Fortunately the articles submitted to the Virginia Medical Monthly during recent years have continued to improve qualitatively as well as quantitatively, and the Editorial Board hopes that this has been evident to our readers. We also trust the members will continue to favor the journal with their outstanding literary contributions.

HARRY J. WARTHEN, M.D., *Chairman*

Mediation

It is always encouraging when your State Mediation Committee can report a quiet year with no activity whatever. Certainly this speaks well for our local mediation committee system.

Unfortunately, however, the overall picture is not as bright as we might wish. Your State Headquarters staff reports receipt of approximately 150 grievances a year—most of them by telephone. While the greater portion of these are handled without undue difficulty and go no further, a sizeable number must necessarily be referred to local committees.

This increase in the number of grievances is apparently part of a nationwide trend, and all physicians are urged to give the problem serious thought and be alert to possible grievances stemming from misunderstandings among their own patients.

WALTER P. ADAMS, M.D., *Chairman*

Blue Shield Directors

This committee, those Directors of the Virginia Medical Service Association who were appointed by your Society, is happy to report what seems to be a healthy situation, financially and otherwise. The number of subscribers covered by the plan is 578,394, quite an increase within the past year. The number of participating physicians, 1776, is an all-time high, and increasing each month.

A committee from the Directors has met with each of the specialty groups in an attempt to work out equitable fee schedules. It is planned to gradually convert to a type of Relative Value Schedule for fees known as PSI. This is being gradually adopted on a national basis by most of the Blue Shield plans and will be of value as far as national accounts of corporations located in many different areas.

The question of an extra-cost rider to those subscribers desiring payment by the plan for certain services covered to Podiatrists and Osteopaths has been brought to your Council, and it has requested that it be presented to the House of Delegates at the October meeting. This is to be done and action is requested by the House in order that its feeling on the matter can be relayed to the Board of the Virginia Medical Service association.

A new building is in progress in Norfolk, and a larger headquarters is on its way in Richmond.

It is hoped that the number of participating physicians will increase beyond the present high.

FLETCHER J. WRIGHT, JR., M.D., *Chairman*

National Legislation

As this report is written, the King-Anderson battle is moving over to the Senate side of the Capitol. This shift resulted when the House Ways and Means Committee did not report the bill (H. R. 3920). Its sponsors have admitted that they do not have the necessary votes at this time.

There are, however, ominous noises being made by some Senators—notably Senators Humphrey and Javits, and it is expected that King-Anderson will be “tacked on” to some other bill—probably containing amendments to the Social Security system. Needless to say, medicine must continue to be alert to any and all developments.

For the third time in recent years, your Committee presented testimony on behalf of the Society's opposition to King-Anderson. This testimony was received by the House Ways and Means Committee and we can only hope that it played some small part in that Committee's decision to pass by the bill for the time being.

Once again, your Committee sponsored a luncheon at the Capitol in Washington for Virginia's Congressional delegation. The luncheon is traditionally held in the Speaker's Dining Room and we wish every member could attend and really get to know these fine men representing us in the Congress. We can report, with no fear of contradiction, that the medical profession in Virginia has

never enjoyed a better working relationship with its Congressional representatives than it does at this time. We earnestly recommend that these luncheons be continued.

HARRY C. BATES, M.D., *Chairman*

Mental Health

The Mental Health Committee met on February 10, 1964, and June 17, 1964.

Dr. Hiram Davis, Commissioner of the Department of Mental Hygiene and Hospitals and Mr. Sam Carey, Chairman of the Executive Committee of the Virginia Mental Health Study Commission were invited guests at first meeting. It was explained that the Study Commission is composed of 75 individuals representing many groups from throughout the State of Virginia, one being The Medical Society of Virginia (two members of the Mental Health Committee, Dr. W. D. Buxton, and Dr. John R. Saunders are members of the Committee). It was also explained that it is the plan of the Commission to hold Study Conferences in all the ten Congressional Districts. The Commission's report is due to be completed by June, 1965. The Mental Health Committee received the report with much interest and voted to lend its support in any way possible.

During the first meeting of the Mental Health Committee, Dr. Hiram Davis, also reported that quite likely a V.A.L.C. study of the clinical psychologist situation in the State of Virginia would be approved by the General Assembly which was then in session. (This was passed by the General Assembly and Senator J. D. Hagood has been appointed as its Chairman by the Governor.) At the second meeting it was unanimously voted to inform Dr. Hagood of the Committee's willingness to assist in this study in any way possible and at the same time call to his attention the resolution concerning psychologists that was presented to the Virginia State Board of Medical Examiners by the 1963 Mental Health Committee of The Medical Society of Virginia.

The Chairman of the Mental Health Committee attended the Tenth Annual Conference of the Mental Health Representatives of the State Medical Associations held in Chicago, Illinois, on February 14-15, 1964. This theme of the meeting was "The Role Of The State Medical Society In Mental Health Programs", as well as discussions of plans for the Second National Congress on Mental Illness and Health to be held in Chicago, Illinois, on November 5-7, 1964.

The Committee was pleased to learn that its request for a place on the program by a representative from the field of Mental Health at the annual meeting of The Medical Society of Virginia had been approved by the Program Committee. The Committee feels fortunate that Dr. Floyd S. Cornelison, Jr., Professor of Psychiatry at Jefferson Medical College, Philadelphia, has accepted our invitation to appear on the program on October 13th. His discussion will be concerning suicide (the exact title of his paper is not known at this time).

On May 16th, a symposium entitled "Psychiatry for the General Practitioner" sponsored jointly by the Virginia Academy of General Practice, the Mental Health Committee of The Medical Society of Virginia, and the Neuropsychiatric Society of Virginia, was held at West-

brook Psychiatric Hospital, Richmond. The moderator was William Sheely, M.D., Chief, American Psychiatric Association, General Practitioner Education Project, Washington, D.C. Robert S. Garber, M.D., Medical Director The Carrier Clinic, Belle Mead New Jersey, Assistant Professor of Clinical Psychiatry Jefferson Medical College and Associate Professor of Psychiatry Temple University Medical School, spoke on "Management of the Depressed Patient". Dana Farnsworth, M.D., Professorship Henry K. Oliver, Professor of Hygiene & Director of University Health Services Harvard University and Physician Massachusetts General Hospital, spoke on the "Role of Psychiatry in General Medicine".

The Committee at its second meeting voted unanimously to recommend to the Society that they endorse a State Mental Health Congress be held in Alexandria, February 25-26, 1965, in conjunction with the annual meeting of the Virginia Mental Health Association.

The Chairman wishes to express to the remainder of this Committee and to Robert I. Howard, Executive Secretary, his appreciation for their cooperation and assistance in the formulation of this report.

JOHN R. SAUNDERS, M.D., *Chairman*
W. D. BUXTON, M.D.
ROBERT C. LONGAN, JR., M.D.
JOSEPH R. BLALOCK, M.D.
EMORY F. HODGES, JR., M.D.
SAMUEL S. MORRISON, M.D.
R. TERRELL WINGFIELD, M.D.
IRA L. HANCOCK, JR., M.D.
ROBERT B. NEU, M.D.
ROBERT H. THRASHER, M.D.

Cancer

The Cancer Committee met at the Williamsburg Lodge for breakfast on March 7, 1964. Drs. Massie, Kight, Dolan, Southward, Jones, Stone and Fitchett were present. There were other gentlemen present as guests of the Committee. The Special Committee to investigate certain of the tumor clinics made a full report and the following action was taken:

1. The committee voted to withdraw the approval of the tumor clinic at Bedford.
2. The committee voted to withdraw the approval of the tumor clinic at Richlands.

The committee felt that in both of these clinics, when they are notified of their approval being withdrawn, that we should encourage them to correct some of their deficiencies and later re-apply for approval.

3. General discussion was held concerning the problems of the tumor clinic in Radford. It was voted that the Cancer Committee make specific suggestions to the group in Radford and ask them to attempt to put them into effect and their problem could be reviewed again at the end of the year. These suggestions will be made and are as follows:

- A. Regular meetings twice a month.
- B. Meetings should be held in the hospital.
- C. Proper records should be kept and forwarded to the State Department of Health.
- D. In order to stimulate interest in the clinic at Rad-

ford, it is suggested that perhaps visiting speakers on the subject of malignancy would be of help.

E. It also is suggested that the group in Radford might consider rotating the Director of the tumor clinic every year or so to try to stir up interest among other members of the community.

4. The tumor clinic at Warrenton was discussed and it was felt that the same recommendations made to the Radford clinic would also hold for the clinic in Warrenton. In addition, we should also encourage the group there that, whenever they review tumor clinic records, the patient should be present and should be examined and recommendations made in this manner, rather than just a review of the charts. Another suggestion that will be made to the Warrenton group is that they might combine with the hospitals in Culpeper and Manassas, have a joint clinic, and meet at the various hospitals at different times.

5. The application of the group from Emporia was then considered. After due consideration, the committee felt that if the Emporia group could meet the requirements as set down by this committee, they should have tentative approval as a diagnostic tumor clinic. The group in Emporia will be written concerning this, with instructions of what a diagnostic clinic should do.

The committee then had a discussion about the types of tumor clinics that are held. It was felt that only the larger clinics could function both as diagnostic and therapeutic clinics, and that the smaller clinics would best be designated perhaps as diagnostic tumor clinics. It was felt that we should re-evaluate our entire program and all the clinics in the State. A special committee will be appointed for this purpose.

The committee then reaffirmed the requirements for approval of a tumor clinic in Virginia, and they are as follows:

1. The tumor clinic should meet at least twice a month.
2. The clinic should meet within the confines of a hospital.
3. The tumor clinic should have in attendance a radiologist, a pathologist and a physician practicing in the community, preferably a general surgeon. Other members of the Tumor Board should be a gynecologist, an internist and a general practitioner whenever possible.
4. Proper records should be kept and forwarded to the State Department of Health. These records should be kept in such a way that the tumor registry in the hospital is properly established.
5. Local medical societies should approve the establishment and continuation of the clinic in the community. We are asking all new applicants when they apply to the committee to send in a letter from the county society citing their approval.

CLAIBORNE W. FITCHETT, M.D., *Chairman*

Advisory to Medical and Allied Organizations

This Committee, which had been rather active, has not been called on for any consultations this past year. Consequently there have been no meetings and there is no formal report.

It is thought, however, that this Committee should be continued, as it has been useful in the past and in every likelihood it is going to be called on to perform duties in the future.

McLEMORE BIRDSONG, M.D., *Chairman*
WYNDHAM B. BLANTON, JR., M.D.
SHELTON HORSLEY, III, M.D.
ROBERT FAULCONER, M.D.
WILLIAM B. BROWN, M.D.

Medicare

Your Committee held three meetings during the past year, and once again some sixty cases were reviewed. It is hoped that we can report a decrease next year.

We believe the membership will be interested to learn that every effort is made to have as many specialties as possible represented on this six-man advisory committee. Serving on the Committee are a general practitioner, a radiologist, a general surgeon, an obstetrician, an orthopedist, and a plastic surgeon.

The Committee once again wishes to stress the fact that when physicians charge their usual fees, they will have little difficulty.

It is to be regretted that the Committee cannot, for many reasons, meet as often as it would like. It is for this reason that the settling of claims under the program is often delayed. All members of the Committee take this opportunity to express their sincere appreciation of the patience and understanding displayed by those physicians whose claims have come before the Committee for review.

W. LINWOOD BALL, M.D., *Chairman*
HUNTER B. FRISCHKORN, M.D.
RICHARD MICHAUX, M.D.
WILLIAM E. BYRD, M.D.
VIRGIL R. MAY, JR., M.D.

Child Health

Your Committee met in Richmond on April 26 and believes that the minutes of that meeting will serve as an interesting and informative Committee report.

A meeting of the Committee on Child Health was held at Society Headquarters on April 26, 1964. Attending were: Dr. William P. Spencer, Chairman, Dr. Warren G. Gregory, Dr. C. Brock Hughes, Dr. Robert D. Shreve, Dr. Robert H. Anderson, Dr. W. N. Thompson, and Dr. Edwin B. Vaden. Also attending were Dr. W. E. Chapin and Dr. James J. Dunne, representing the State Department of Health.

Dr. Spencer advised the committee that he had visited the offices of the State Department of Education and discussed the standard health examination form with Dr. Wilkerson, Commissioner, and Mr. Barnett. He stated that Dr. Wilkerson seemed to be agreeable to use of the form, and hoped that it will not be long before local superintendents will see to its utilization.

Dr. Spencer went on to point out, however, that Dr. Wilkerson had questioned the size of the form—feeling that it posed a filing problem. The Department of Education also believed that the forms should be in

the hands of all physicians—rather than having to be supplied by the schools. This posed a problem of cost.

Following considerable discussion, it was agreed that the committee should undertake to devise a form acceptable to everyone. Dr. Gregory was requested to head a special committee for this purpose. He then requested that each committee member send him a copy of the examination form used in each county.

A question was raised concerning the advisability of permitting various lay persons to conduct certain examinations. This also led to a question concerning whether optometrists should be permitted to conduct eye examinations in the schools. It was generally agreed that any form of examination conducted by laymen was certainly questionable procedure and in most instances quite inadvisable.

The committee next reviewed its policy concerning use of Sabin oral polio vaccine, and it was the consensus that events during the past year called for a policy change. Mass immunization clinics have been held in all areas of the State and a number of others are under way at the present time. Mentioned was the fact that the Committee on Infectious Diseases of the American Academy of Pediatrics has now endorsed the Sabin vaccine. It was agreed that the mass immunization of communities should be sought before stressing the individual immunization by the private physician. The committee went on to recommend that all infants be immunized during the second month.

In discussing the various polio clinics, it was brought out that a 70 per cent participation is normally considered good. The Richmond area was complimented on its 85 per cent participation figure.

Dr. Chapin and Dr. Dunne then discussed the school emergency chart which is just about ready for distribution. The chart remains basically the same as proposed to the committee at its last meeting. Dr. Dunne stated that he is searching for a proper title for the chart—one chosen for the express purpose of not misleading the principal or teacher as to their responsibilities. It is planned to place only one chart in each school and, in most instances, one individual will be responsible.

A suggestion was made that some school personnel avail themselves of Red Cross First Aid instruction. The thought existed, however, that while many first aid courses are excellent, there are those which seem to do more harm than good. The courses actually are no better than the instructors.

School construction came in for its share of discussion, and it was learned that air conditioning is becoming a necessity for new schools—particularly with a twelve months school year seemingly just around the corner. It was also learned that the trend is now back to the compact type school, rather than the rambling, ranch type units.

Dr. Anderson reported on the Greenbrier meeting of the AMA Committee on Maternal and Child Health. The meeting, in his opinion, had much to recommend it.

In response to a question as to whether a Perinatal Committee should be formed at the State level, it was urged that a joint meeting of the Society's Maternal and Child Health Committees be arranged. The thought was

expressed that perinatal committees should exist in each hospital where deliveries are done.

The Executive Secretary was requested to write Dr. Mason Andrews, Chairman of the Society's Committee on Maternal Health, and explore a possible joint meeting in the not too distant future.

A request was made that the subject of Premature Centers be placed on the agenda for such a joint meeting. Further discussion concerning the premature child brought forth the thought that local health department nurses could be quite helpful in the instruction of mothers on proper care of the premature infant. Such service should be made available to both indigent and private patients.

The next question to be considered was whether the DPT immunization should be required by counties for school entrance. Although it was believed unwise to recommend a mandatory DPT, the committee did recommend that children be vaccinated at one year of age and re-vaccinated every five years as recommended by AMA and the American Academy of Pediatrics.

Dr. Anderson mentioned the fact that the AMA Perinatal Mortality and Morbidity Study was no longer being carried on, and the committee expressed its regret that it had to be discontinued.

The committee was then advised that the Council of The Medical Society of Virginia had approved a State Department of Health project which would make available to the practicing physician a testing procedure quite effective in discovering phenylketonuria (PKU). Council had requested that details be worked out by the Committee on Child Health and the Bureau of Maternal and Child Health.

Dr. Dunne stated that results thus far indicated that approximately one in ten thousand infants are affected, and expressed the feeling that the ratio might well decrease as the amount of testing increases. At the present time, testing is being conducted in hospitals. Dr. Dunne went on to state that his office will provide physicians with necessary materials. The test being used is the Guthrie procedure.

Further discussion brought out the fact that each case of PKU discovered means a probable saving to the State of approximately \$100,000. Dr. Dunne indicated that articles about the testing procedure will be prepared for publication in the Virginia Medical Monthly and also "News and Views."

A motion to approve Dr. Dunne's proposal was adopted.

Dr. Gregory stated that approximately ten per cent of today's children suffer from a severe reading disability. This disability can be tied in with school dropouts and even delinquency. Although dexedrine and psychiatric clinics have proved helpful, there appears to be a need for remedial reading centers. It was agreed that this is an area which needs attention, and articles, films and exhibits were mentioned as possibilities. It was also suggested that a speaker on the subject be sought for the annual meeting of the Virginia Education Association.

In answer to a question concerning treatment for the mentally retarded, it was learned that several new centers are contemplated.

WILLIAM P. SPENCER, M.D., *Chairman*

Insurance

Your Committee is pleased to report that all insurance programs sponsored by The Medical Society of Virginia are doing nicely. Although experience under the Professional Liability Program has not been as good as we had hoped, the program remains one of the best anywhere in the country.

At the present time, 77 percent of our membership is participating in this very fine professional liability plan. While the loss ratio for physicians remained within limits, that for surgeons increased greatly. Since this overall experience during the past year was not as good as had been hoped, the Committee believed it advisable to accept a recommendation that a four-class premium structure be adopted. Under this structure, Class 1 and Class 3 would receive rate decreases, while those in Class 2 and Class 4 would have their premiums increased. Even with the moderate increase in two classifications (8 percent), Society members would still be paying considerably less than they would outside the plan. The four classes were set up as follows:

Class 1: Applies to general practitioners and specialists who do not perform obstetrical procedures or surgery (other than incision of boils and superficial abscesses, or suturing of skin and superficial fascia), and who do not ordinarily assist in surgical procedures.

Class 2: General practitioners and specialists who perform minor surgery (including obstetrical procedures not constituting major surgery) or assist in major surgery on their own patients. Tonsillectomies, adenoidectomies, and cesarean sections shall be considered major surgery.

Class 3: General practitioners who perform major surgery or assist in major surgery on other than their own patients and cardiologists (including catheterization, but not including cardiac surgery) ophthalmologists and proctologists.

Class 4: Specialists: anesthesiologists, cardiac surgeons, neurosurgeons, obstetricians-gynecologists, orthopedists, otolaryngologists, plastic surgeons, surgeons-general, thoracic surgeons, urologists and vascular surgeons.

For the first time in several years, the number of cases outstanding showed a marked increase—74 as against 30 last year. This apparently reflects a trend which is nationwide, and your Committee intends to do everything possible to hold malpractice suits in Virginia to an absolute minimum. It is hoped that the Joint Medico-Legal Screening Panel now in operation will prove effective in this regard.

Considerable attention was given the Society's two sickness and accident programs. The basic program is underwritten by America Fore—Loyalty Group, and a supplemental program by the Firemen's Fund. Every effort is being made to eliminate any conflicts between the two programs and make sure that each plan does the job for which it was commissioned.

It is good to report that the Accidental Death, Dismemberment and Disability Program is doing very well. Your Committee is quite sure that this is one of the best plans of its kind available on today's market.

At the present time, the Society's Savings and Retirement Program is not being utilized to a very great extent. This can be attributed to recent IRS opinions which have stymied the efforts of physicians to benefit through the medium of professional associations. It is hoped that this problem can be solved through litigation.

It might be well to mention that several physicians are, however, using our plan to set up annuity programs on an individual basis.

The major hospital and overhead expense programs continue to move ahead. A total of 803 physicians are participating in the two plans, and although experience has not been the best, no premium changes are recommended.

Your Committee continues to be approached concerning the advisability of having the Society sponsor a life program. There remains some doubt concerning actual demand for such a program, and we are now attempting to determine whether sufficient interest does in fact exist.

Your Committee feels that The Society has seven excellent insurance programs. It is hoped that these programs can be made even better as time goes on. Your thoughts and suggestions are always helpful—and most welcome.

ANDREW F. GIESEN, M.D., *Chairman*
W. D. LEWIS, M.D.

A. L. HERRING, JR., M.D.
HARRY B. STONE, JR., M.D.
C. M. MCCOY, M.D.
MACEY H. ROSENTHAL, M.D.
ROBERT C. HUNT, M.D.

Medical Education

Your Medical Education Committee met at Society Headquarters on February 13, 1964, with Drs. Malcolm Harris, Kenneth C. Crispell, Kinloch Nelson, Russell M. Cox, Shelton Horsley, III and your chairman in attendance.

The acute shortage of physical therapists in Virginia was brought to the attention of the Committee by Dr. Cox who believes that this shortage may be due in part to the stringent educational standards now required of these technicians but they are reluctant to lower their standards for the sake of numbers. It was suggested that Dr. Cox explore the problem further with the possibility in mind of training some therapists at a lower professional level and report back to the Committee at some future date.

At the suggestion of the Medical Education Committee, with the recommendation of Council and approval of the House of Delegates meeting in October 1963, The Medical Society of Virginia provided a scholarship fund of \$1,000.00 to each of our two medical schools for the year 1964 with the funds to be used at the discretion of the deans of the two schools. Drs. Crispell and Nelson expressed the gratitude of the medical schools and their faculties for these funds and the Medical Education Committee expresses the hope that such scholarship funds can be allocated annually.

Much interest was shown in Part II of the report of the State Council on Higher Education which deals with the possibility of a third medical school to be located in the Tidewater area. While the report looks with favor on more medical educational facilities and even a third medi-

cal school it recognizes the many obstacles such as finances, faculty, teaching hospitals and qualified students which must be overcome. During the discussion it was learned that both the Medical College of Virginia and the University of Virginia hope to expand their student enrollment significantly in the near future but that such urgent needs cannot be met unless funds requested, but deleted in the Governor's budget, be approved. Because of the urgent need for restoring these medical school items which had been deleted from the Governor's budget the Executive Secretary was requested to contact the President and the Chairman of the Executive Committee of The Medical Society of Virginia to ask authority for a letter to be sent from the Society to each member of the General Assembly asking their assistance in restoring these deleted items. This request was promptly granted and the suggested letter was at once sent to each member of the Assembly over the signature of the Chairman of the Executive Committee.

It was reported to your Medical Education Committee that a bill approved by your Committee that would grant temporary licenses to qualified and distinguished foreign physicians to teach in our medical schools would probably pass the General Assembly without major obstacles.

Your chairman reminded the Medical Education Committee of the action of the House of Delegates of the American Medical Association during the June 1963 meeting when it voted to call to the attention of all medical schools the acute shortage of general practitioners and to ask their help in acquainting more medical students with a knowledge of the general practice of medicine. Dr. Nelson told the Committee that various means are now being employed to interest students in general practice. Our special interest is the preceptor programs in small towns and rural communities being encouraged and actively participated in by some of our medical schools.

Your Committee recognizes the complex economic, social and even political ramifications which beset today's medical educational programs across our nation. We know the solution will never be easy nor complete, but we are convinced that many of our more important and difficult problems can be solved when men of good will and good judgment with a sense of responsibility to all segments of society are willing to meet at the conference table. This premise has been magnificently demonstrated at the local level in our own Committee. We can assure you that the deans of our two medical schools are as anxious and as concerned as you about medical education problems, especially as they pertain to general practice and the provision of adequate medical care in rural communities. They invite and welcome your comments, suggestions, and personal visits. Good medical education is the responsibility of the entire profession and, like politics, it can be kept free, unencumbered, wholesome and uncommitted to any political, social or economic segment of our society only through your wholehearted participation and support. We do not ask for blind allegiance. Instead we invite you to help, through active participation in your medical schools affairs, change those things which may be wrong and cultivate and nourish

those programs designed to give better and more medical care to all Americans.

RUSSELL M. COX, M.D.
KENNETH R. CRISPELL, M.D.
MALCOLM H. HARRIS, M.D.
SHELTON HORSLEY, III, M.D.
KINLOCH NELSON, M.D.
JOHN C. WATSON, M.D.
ALLEN BARKER, M.D., *Chairman*

National Emergency Medical Services

We have been fortunate in that we have had no emergencies requiring action by this committee during the past twelve months. Nevertheless, it has been a busy year.

During the year all thirty-five of the Civil Defense Hospitals have been re-inspected and deficiencies, in most instances, have been corrected. Two hospitals have been relocated because of disapproved storage facilities. A total of 17 supply additions have been delivered bringing the hospitals up to a thirty-day operating capability. Two of the newest type Civil Defense Emergency Hospitals (1962 type) have been delivered to the State. Eleven more are on order.

At the present time all Civil Defense Emergency Hospitals must have an Utilization Plan which includes a staff cadre for operating the hospital in disaster.

The Virginia Hospital Association has supplied each member hospital with a Disaster Check List which, if closely followed, would prepare any hospital for almost any type of disaster. Four general hospitals in Virginia have trained radiological monitors and their own monitoring equipment.

Training of personnel continues. Last November all local health directors took a second course in Chemical, Biological, and Radiological Warfare defense, including exposure to gas. Refresher courses continue for nurses and sanitarians. First aid courses are made available through the Armed Forces and the American Red Cross.

To date 14,622 people have been trained in our Medical Self-Help program. This figure places Virginia sixteenth in the nation in persons trained.

Since the State has initiated a counterpart to the national office of Emergency Planning four physicians, members of The Medical Society of Virginia, have been selected to serve on the Medical Committee of this office.

An additional position has been authorized by the State Department of Health which will permit greater coverage in the State in disaster planning and the expansion of services by this committee.

W. R. SOUTHWARD, JR., M.D., *Chairman*
C. R. RILEY, M.D.
E. CATO DRASH, M.D.
F. A. KEARNEY, M.D.
M. L. KRISCHER, M.D.
COLEMAN BOOKER, M.D.
W. A. READ, M.D.
DAVID J. CRACOVENER, M.D.
W. F. WELLER, M.D.

Walter Reed Commission

The Walter Reed Birthplace property is being well maintained by the Walter Reed Community League.

Ninety-eight dollars were spent on upkeep and yard care in the past fiscal year.

The highway sign has been renewed and your Walter Reed Commission proposes establishing a parking area on the property and repainting of the exterior of the building during the fiscal year 1964-65.

THOMAS E. SMITH, M.D.
STERLING N. RANSONE, M.D.
RAYMOND S. BROWN, M.D.

Liaison to Confer with the United Mine Workers of America Welfare and Retirement Fund

The Liaison Committee to confer with the United Mine Workers of America Welfare and Retirement Fund met in a brief session at the 1963 session of the State Medical Society.

This meeting was called at the request of Dr. John W. Winebrenner, Area Administration of the UMWA Welfare and Retirement Fund, for the purpose of meeting his successor. The members of the committee had a very pleasant talk with Dr. Allen Koplen. No particular business was discussed at that time.

There have been no problems referred to the Committee, either by the UMWA Welfare and Retirement Fund or by the medical profession, during the year so there has been no committee meeting called.

JAMES M. PEERY, M.D., *Chairman*
KINLOCH NELSON, M.D.
MACK I. SHANHOLTZ, M.D.
RUFUS P. BRITTAIN, M.D.
LEWIS INGRAM, M.D.
KENNETH R. CRISPELL, M.D.
H. B. MULHOLLAND, M.D.
W. LINWOOD BALL, M.D.
VINCENT W. ARCHER, M.D.
ALLEN BARKER, M.D.

Radiation Hazards

Legislative proposals governing the use of radiation sources have been the subject of the last several annual reports of this Committee. It is with great relief that the Committee now reports that suitable legislation was enacted by the 1964 Legislature and that this legislation was signed into law by the Governor. A copy of the new law is appended. It is essentially what was proposed by this Committee, which includes the Commissioner of Health. The proposals were approved in principle by the House of Delegates at its 1961 meeting.

The law provides a valuable safeguard for our citizens, the broadening usages of radiation make such a law highly desirable, and the guidance of its enactment represents a real service to Virginia by our Medical Society.

HUNTER B. FRISCHKORN, M.D.
ROBERT E. MITCHELL, JR., M.D.
MACK I. SHANHOLTZ, M.D.
CHARLES D. SMITH, M.D.
GEORGE COOPER, JR., M.D., *Chairman*

Liaison to State Bar

It is necessary to report that the amendments suggested by your committee and adopted by The Medical Society of Virginia at its 1963 annual meeting were not adopted by the State Bar and are therefore not incorporated in "The Standards of Principles Governing Lawyers and Physicians". The specific statements suggested by the joint committee and considered by the State Bar at its last annual meeting in June, which primarily detailed the various services for which a physician could reasonably expect additional compensation, were not adopted. The State Bar did adopt a statement which is to be added under Section C—"The Physician's Fee and Services" numbered 2 the following: "The financial relationship of the physician and patient is personal between them and the attorney should not discourage without good cause the prompt payment of reasonable medical bills." The committee therefore endorses the adoption of this addition to the Principles. Thus you will *rescind* the action taken at the 1963 annual meeting.

The members of this committee grow more enthusiastic of its purposes and opportunities with each succeeding meeting. It is therefore with sincere regret that we must admit a number of factors preventing the accomplishment of the panel's potential. Specifically, there has been apparent an attitude of non-cooperation on the part of the Malpractice insurance carriers. This has resulted in the willingness of a number of potential plaintiffs to submit the action to the joint panel but, because of the attitude of the malpractice carrier, the physician is not encouraged to do so. Considerable discussion has been entered into by your committee regarding this problem and means whereby it can be circumvented. Therefore, the committee unanimously adopted the following addition to Article 3, Paragraph 7 of the plan and recommends its adoption by The Medical Society of Virginia. Specifically: Paragraph 7 will now read: "Written consent to a review by the panel signed by the physician in question and his attorney as the case may be shall accompany each application, *if such consent can be obtained; but if the said physician and his attorney will not consent to have the case heard by the panel and the applicant and his attorney so certify the panel will nevertheless hear the case.*" This addition was offered to the State Bar at its last meeting and adopted by them. Upon approval by the Society at this meeting it can be placed in effect. Your committee recommends its adoption.

During the past year several cases have been heard by the joint panel. In none of them was there found any justification for malpractice suit.

It is this latter situation to which the insurance carriers primarily object. While understanding their position, it is nevertheless the feeling of your committee that without the provision that either party can proceed as he or she sees fit, irrespective of the panel's recommendation, it would contradict the basic principles which led to setting up the joint panel. It is further the feeling of the members of your committee that as the committee continues and the panel continues in its functioning the position will be better understood by all parties and it will result in a greater tendency to accept the recommendation of the panel on the part of all parties to the action. It further remains the strong conviction of each member

of the committee that the position of the potential doctor defendant is much better protected if subject to the review of an intelligent and educated panel rather than to a lay jury subject to the usual emotional appeals, etc. The committee takes satisfaction in reporting that in each of the cases heard there was complete unanimity among the members of the joint panel in each instance. The increasing understanding between the two committees and the attitudes which now prevail in discussions relative to mutual problems, continues to be reassuring to your committee.

In conclusion your committee recommends that the program be continued and that every effort be made on the part of The Medical Society of Virginia to further familiarize its members with the existence of the committee, its principles, its availability, its advantages to the physicians' interests, and to further urge its members to use every effort possible to utilize its services when any question involving malpractice arises.

E. E. HADDOCK, M.D., *Chairman*

Advisory to Welfare

The Advisory Committee to the Department of Welfare and Institutions has had an exceptionally busy and even controversial year. The major emphasis has been on the regulations and policies issued for operation of the Medical Assistance to the Aged program, the implementation of the Kerr-Mills legislation in Virginia.

A brief historical perspective is necessary. The Virginia General Assembly in the 1962 session adopted legislation to make effective The Medical Assistance to the Aged program in Virginia and appropriated \$250,000 in State money to operate the program from the effective date January 1, 1964, to the end of the fiscal year June 30, 1964.

The program was designed to assist people 65 and over, whose income permitted self-support, but left such a small margin over subsistence that they were unable to pay for needed medical services. The criteria for acceptance under the program was an income level below \$1500 for the individual and \$2100 for a couple, annual income from all sources. These are rulings by the State Board of Welfare and Institutions.

Services supplied with specified maximums were hospital care, medical and surgical care in the hospital, home, office and clinic, nursing home care following hospitalization, professional nursing services in the home, drugs on prescription by the attending physician, and dental services exclusive of supplying dentures.

It was, of course, necessary for administrative purposes to institute rules and regulations to operate the program, and this was the province of and done by the State Board of Welfare.

There were several unknown factors which dictated caution. No utilization experience was sufficient to forecast with any accuracy the anticipated demand for services. The \$250,000 voted by the Assembly to operate the program for six months, and the quite variable and often limited funds included in the budgets of the political subdivisions to match the available state and federal funds were limiting. Consequently attempts were made to operate conservatively until accumulated experience permitted greater assurance.

Your committee recommended to the Council of The Medical Society of Virginia that the pattern previously set under the State-Local Hospitalization program, and the hospitalization of Welfare recipients under the federally participating categories, of making no payment to the purveyors of medical and surgical services to hospitalized patients, be extended under the Medical Assistance to the Aged program, pending further study, accumulation of experience in operating the program, and action by the House of Delegates in October. It seemed to the Committee to be a reasonable, safe and cautious effort to effectuate a program which the medical profession had strenuously advocated, and even owed some personal and financial sacrifice, to make work effectively.

Since both the lay public and the medical profession had been oversold on the Kerr-Mills approach to the medical needs of the older citizen and expected immediate results, it should not have been surprising that seemingly everyone was displeased.

Nevertheless your Committee and the Council were promptly deluged with both informed and uninformed protests, and the deluge has lasted longer than Noah's famous flood.

ROBLEY BATES, M.D.
H. W. FELTON, M.D.
THOMAS S. EDWARDS, M.D.
W. C. ELLIOTT, M.D.
G. B. SETZLER, M.D.
JOHN T. T. HUNDLEY, M.D., *Chairman*

Traffic Safety

In 1963 your committee on Highway Safety, in conjunction with Dr. Mack Shanholtz and the State Department of Health, unsuccessfully attempted to formulate legislation related to the medical aspects of highway safety. A sound plan designed to identify the high risk driver was prepared, only to be found unworkable after undergoing the technical changes considered necessary by the State Legal Department.

In 1964 the General Assembly passed significant bills related to highway safety; our legislators again continued to demonstrate the leadership Virginia is playing in the national highway safety program. All in all more than twenty bills relating to highway safety were passed. Some of the measures were drastic and likely to have a decided deterrent effect on traffic offenders. An attempt was made to improve the ineffective implied consent law, especially insofar as the taking of the blood samples. Apparently the advantages of the simple breath test for determining the alcohol blood level of the dangerous drunken driver were not considered.

The failure to pass some of the recommendations of the Virginia Advisory Legislative Council disappointed many people; this committee submitted a comprehensive and perceptive report to the General Assembly after a state wide survey of Virginia's traffic problem. To those tireless workers in the field of highway safety, like Dr. Fletcher Woodward, the pace toward safe and sane driving is painfully slow.

While the carnage on our highways continues at a frightening rate, there is evidence of an awakened general interest in the safety problem. The persistent and vigor-

ous efforts of Col. Woodson and Capt. King of the Virginia State Police, and the endeavors of members of the Governor's Safety Council and Advisory Group will eventually dent the wall of public apathy, and will stimulate state and local leaders to attack the enigma of highway safety with renewed vigor.

The Medical Society of Virginia should continue to play a dynamic part in the legislative as well as non-legislative aspects of highway safety. The proposals formulated by the Albemarle County Medical Society's Committee on Highway Safety should constitute our basic goal for legislative action.

At the local level the physician can assume leadership in his community in many ways. He can sponsor driver improvement schools; these schools are designed to improve driving skills and attitudes, and especially reorient the habitual traffic offender toward safe driving. He can advise his poor risk driver patients to refrain from operating a motor vehicle; he can speak before civic groups urging a change in the viewpoint of our citizens toward safety on our highways.

For your information a future issue of the Virginia Medical Monthly will reprint a special American Medical Association report on the Medical Aspects of Driver Limitation. Also this problem will be studied in depth at a national conference on automotive safety research, and the responsibility of the physician in the development of sound medical criterion for driver licensing. The conference will be held in Chicago in November 1964.

The realization of a fair degree of highway safety will only be reached by a sweeping effort by all agencies connected with the traffic problem. Every ingredient for success is available; the outcome will depend on a concerted action of energy and dedication. The physician can continue to play an important part in this team attack on the nation's number one public health problem.

FRANCIS H. MCGOVERN, M.D., *Chairman*
DUPONT GUERRY, III, M.D.

LOUIS P. RIPLEY, M.D.

ROBERT P. IRONS, M.D.

R. D. BUTTERWORTH, M.D.

WILLIAM H. PIFER, M.D.

Liaison to State Nurse Examiners & Organized Nursing

We wish herewith to report the activity of the Committee for Liaison with the Nurse Examiners and Organized Nursing:

1. With full support, we had a useful session with the Nurse Examiners. We learned that in the thirty-two programs training professional nurses in Virginia, the total enrollment is 2,367, an increase of 16 over the previous year. Twenty-five of these programs with an enrollment of 1,875 are the usual Diploma or R.N. Programs. Four are Associate Degree Programs and three are Baccalaureate Degree Programs.

2. The total number of professional nurses in Virginia, working, in 1963 was 10,503, an increase of 153 over the previous year.

3. The number of professional nurses registered by examination in 1963 was 630, an increase of 34 over the year before.

4. A nursing educational director employed by the Nurse Examiners to improve nurse education in Virginia in the past year is thought to have been quite helpful to the programs. Educational conferences have been held. Ten schools are accredited by the National League of Nursing for the high quality of their programs.

5. Virginia gained 255 nurses by interstate licensure in 1963 and 26 from other countries.

6. In practical nursing, there are twenty-eight accredited schools in Virginia with enrollment of 753 or 26 more than in 1962.

7. Virginia has 4,471 practical nurses in 1963, an increase of 60 over 1962.

8. The percentage of failures on Professional Nurse Licensing Examinations in 1963 was 23.4%, lower than in 1962. The figure is still high with the result that Virginia ranks in the lowest third of states in the nation. We agreed that poor high school preparation probably accounted for this to a considerable extent. The percentage of failures on Practical Nurse Licensing Examinations in 1963 was 12.1%, higher than in 1962.

9. This committee was satisfied that the Nurse Examiners have extended themselves to do survey and consultation work with the nursing schools and presented programs designed to improve them. We are impressed with the desire and efforts of this board to steadily increase the number and quality of nurses in Virginia in our existing institutions and in such new institutions as offer promise. Critics of nurse educators or examiners must remember that all nursing schools must constantly improve so that their graduates can conform to national standards for interstate licensure. Again, it is pointed out that examinations are made up at national level even as are medical examinations, with all states participating in the making.

10. Your committee also conferred with the officers of the Virginia Nurses Association.

11. Together, we were pleased that the Medical Practice Act had been amended by the State to permit nurses to do intravenous injections and intubations, thanks to the Legislative Committee of The Medical Society of Virginia. We advised the V.N.A. to have discussion with the federal authorities responsible for the Man Power Training and Development Act training programs for auxiliary nursing personnel to clear with them such confusions as concern the nurses, to the end that proper standards and curricula can be set up for nurses aides. We offered our support of the nurses in this matter.

12. We plan to work with the V.N.A. toward mandatory licensure for professional and practical nurses, in the coming year. The point is that many represent themselves as nurses in Virginia who actually are not licensed and many do not trouble themselves to renew their licensure each year. Virginia physicians are urged to make certain that nurses they employ each year show a renewal of their professional or practical nursing license, with which procedure the doctor is himself familiar.

The chairman of this committee gave a report to its members on the joint meeting of representatives of the A.N.A. and the A.M.A. in Williamsburg in February

and has attempted to share his gleanings with the Council and Medical Society of Virginia and will shortly do likewise for the V.N.A. This committee has no specific recommendation for The Medical Society of Virginia at its annual meeting in 1964.

JOHN R. MAPP, M.D., *Chairman*
JOHN P. LYNCH, M.D.
JAMES M. MOSS, M.D.
BRADFORD S. BENNETT, M.D.
DANIEL N. MOHLER, M.D.

Aging and Chronically Ill

Your committee has met twice during the year. The first time was with the Joint Council to Improve the Health Care of the Aged, when we heard a report of the national meeting of the Joint Council as given by Dr. Triani, who attended the San Francisco Meeting May 2nd to 4th, 1963. He reported a general awareness among those who make up the Joint Council; that is, the American Dental Association, the American Hospital Association, the American Medical Association and the American Nursing Home Association, that the care of the aging should be geared to total care, including retirement, housing, both medical and dental care as well as acute and chronic hospital care. He also stated that it was not only the business of health personnel in the country but the responsibility of all citizens to see that the aging are given the opportunity of living useful lives.

The second meeting, a joint meeting with the Advisory Committee of the Department of Welfare, was held May 10, 1964, with Dr. Hundley presiding. At that meeting the implementation of the Kerr-Mills bill in Virginia was discussed. Questions were raised concerning the payment of physicians caring for Kerr-Mills patients who are hospitalized. The way the Welfare Department now interprets the law, physicians' services are not paid for by Kerr-Mills funds while the patient is in the hospital, but they do provide funds for office visits and home visits to out-patients for those eligible.

There was considerable discussion among those present about the fact that many of these patients, while meeting the requirements for Kerr-Mills assistance, have other resources which keeps them from being thought of or treated as indigent patients. It was the feeling of the physicians present that further exploration of the problem of payment of physicians attending patients in hospitals should be made. Unofficially, it was learned that there was nothing in the federal law which prevented physicians from charging as they have in the past to those who were able to pay and, of course, treating those without funds as they have traditionally in the past without fee.

This matter is to be presented to the Council and the House of Delegates for more definitive action at a later time.

Members of the Aging and Chronically Ill Committee are pleased with the action of the House Ways and Means Committee and Congress to date in not supporting the medical care for the aging through Social Security. We hope that the medical profession has sufficiently in-

formed the public so that this destructive legislation will never pass.

JOHN P. LYNCH, M.D., *Chairman*
H. B. MULHOLLAND, M.D.
MACK I. SHANHOLTZ, M.D.
MALCOLM H. HARRIS, M.D.
JAMES M. MACMILLAN, M.D.

Tuberculosis

In spite of the gradually declining death rate in pulmonary tuberculosis the number of new cases in many areas is gradually increasing. This has been a matter of concern to many responsible individuals and legislative bodies.

In New York City the higher case rate has brought about an intensive effort to find cases and to inoculate susceptible people, particularly children with BCG. The United States Public Health Service appointed a Committee to serve with a similar Committee of the National Tuberculosis Association which has recently issued a new bulletin "Area Wide Planning of Facilities for Tuberculosis Services".

The United States Public Health Service has also published a careful survey of the tuberculosis situation in the United States and its Task Force publication is now available. In Virginia we have had an increase in the number of new cases each year for the last three years. Recently in two counties a very high incidence of positive tuberculin reactors have been found in the public schools. The goal of the United States Health Public Service is to achieve a positive tuberculin rate of less than 1% in 14 year old students. In two schools the incidence of positive reactors has varied from 12 to 20% and a number of positive cases have been found. During the last year, one teacher infected all but one student in her class.

The Tuberculosis Committee would like to urge each member of the Society to increase his efforts to find new cases and to see that cases with positive sputum are sent to the sanatorium for isolation and treatment. Tuberculosis, poverty and ignorance go hand in hand. Many people cannot be depended upon to take their medication at home without daily and constant supervision. Some areas have had inadequate x-ray surveys in the last few years and it is urgent that these areas ask for the x-ray units for their community.

JOHN A. SIMS, M.D.
EDWARD S. RAY, M.D.
ROBERT T. PEARCE, M.D.
CHARLES L. SAVAGE, M.D.
E. C. HARPER, M.D.
GORDON B. TAYLOR, M.D.
E. C. DRASH, M.D., *Chairman*

House

During the first ten months of the current fiscal year our expenses have totaled \$5,608. This falls within our budget of \$6,000 appropriated for building maintenance. While expenses for August and September may exceed \$392, this deficit will be more than compensated by the \$1,854 the other organizations that share the Headquarters Building have contributed toward building maintenance.

The expenses incurred from October 1, 1963, through July 31, 1964, were as follows:

Janitor and Cleaning Supplies	\$1,121.44
Utilities	1,053.96
Taxes	1,671.88
Fuel Oil	601.21
Maintenance (yard and building)	1,120.78
Miscellaneous	38.95
	<hr/>
	\$5,608.22

Your House Committee is happy to report that the roof has proved water-tight during several recent heavy rains and this irksome problem appears to have been remedied.

HARRY J. WARTHEN, M.D., *Chairman*
EDITH I. MILLER, M.D.
ROBERT V. TERRELL, M.D.

Maternal Health

1. Maternal Death Study

The Committee has re-examined the program of detailed evaluation of each maternal death in Virginia. It again concludes that this practice which has contributed so much over the years continues to be an important source of information which is useful in improving maternal health in Virginia. The Committee appreciates the support of the Society and the State Department of Health in assembling the case reports (maintaining anonymity of patient and physician) and asks their continued support of this program. Steps are being taken to code this information on IBM cards to make it more useful for study and evaluation of trends.

2. Standards for Maternity Hospitals

The review of maternal deaths has repeatedly emphasized the importance of maintaining the best possible capacity to handle emergency problems and complications in any hospital which admits patients for delivery. The committee is convinced that the medical profession and the state government share a responsibility for maintaining the standards and requiring certain defined minimum conditions.

The State Maternity Hospital Law provides a useful basis for accomplishing this objective and is generally operating satisfactorily. The Committee will further explore this subject at its next meeting. Last year, representatives of the State Department of Health requested that this Committee recommend more specific guide lines regarding availability of blood than are now provided. Specifically, the committee's opinion was sought concerning the definition of "an available supply of blood" and the present interpretation that "compatible blood must be available for administration within a reasonable time."

The Committee believes that a more precise definition of an acceptable availability of blood would be important to the proper protection of parturients. It strongly recommends the following specific interpretation:

"Compatible whole blood shall be available for transfusion in a severe emergency at the bedside within sixty minutes of the time it is requested."

In order to afford protection, compatible with accepted current standards, blood of the four blood groups, including Rh negative blood, equipment and personnel for cross matching should be on the premises or in the immediate vicinity.

In the *unusual case* where geography makes a small facility indicated in the public interest after thorough study of all alternatives, the above requirement for the emergency availability of blood to be used only in dire emergencies and while cross matching of more adequate nature is in progress at a more distant point may be considered to be met if two pints of Group "O" Rh negative blood of reasonable freshness are available in the hospital. These presumably would have anti-a and b substances added before use and would be rotated at reasonable intervals to be used elsewhere before expiration. This blood also should be cross matched. It would be hoped that such limited facilities would be rare and become rarer.

3. Deduction of Perinatal Mortality

The Committee will meet with the Child Health Committee to explore programs addressed to this objective including stimulation of Perinatal Mortality Conferences in Hospitals. The failure of the infant mortality rate to decrease since 1955 represents a challenge to the profession rather than an irreducible minimum.

MASON C. ANDREWS, M.D., *Chairman*
DAVID M. BRILLHART, M.D.
GARRETT DALTON, M.D.
JAMES J. DUNNE, M.D.
A. TYREE FINCH, M.D.
WILLIAM M. GAMMON, M.D.
E. S. GROSECLOSE, M.D.
GEORGE S. HURT, M.D.
K. CHARLES LATVEN, M.D.
JOHN H. MARSELLA, M.D.
JOSEPH C. PARKER, M.D.
CHESTER L. RILEY, M.D.
GEORGE SPECK, M.D.
W. NORMAN THORNTON, JR., M.D.
HUDNALL WARE, M.D.

Alcoholism

We become concerned at the population explosion, yet appear complacent regarding the even faster rate of increase in the incidence of alcoholism. True, excessive use of alcohol is not a phenomenon limited to our modern day. It has plagued mankind since its original discovery, perhaps dating back to the "Forbidden Fruit". The usual cited estimate of five or even six million alcoholics in the United States is a conservative one. When we consider that for each of these sick individuals there are some five others involved—family, friends, employer, employees, or a potential auto victim, of the drinking driver—this startling figure of over thirty million people needing help makes us reach the inescapable conclusion that we are dealing with a serious public health problem. Yet the social pressures for drinking are such and the tolerance of drunkenness is so general that drinking is given a great impetus, thereby creating alcoholics faster than AA, Al-

Anon, and other rehabilitative agencies and facilities can cope adequately with them.

That so little interest in alcoholism has been shown by the community and the medical profession is a great tragedy. Some regard it as being of more moral turpitude than illness. Despite the fact that the majority of adults drink, it still carries a slight taint of wickedness, so that miseries resulting from drink seem a just retribution. It is a common observation that our reactions toward the sick and handicapped are a mixture of pity, concern and resentment. With the alcoholic whom we can hardly believe is really sick, resentment predominates.

There are many addictive activities we enjoy repetitively to a degree not dictated by reality and for the purpose of relieving tension, gaining pleasure, and raising self-esteem. Mild symptoms are relieved by an "addiction of everyday life" such as tobacco, coffee, food, bridge, golf, tennis, church work, reading T. V. or sex. Community and family attitudes may suggest that alcohol is a dangerous and wicked thing, thus discouraging the more passive from its use, but pushing the defiant toward it, given the necessary need for an activity or substance that reduces tension and raises self-esteem. Multiple factors may be operative in producing a maladaptive way of life. The alcoholic sees a simple alternative: a. unbearable tension, self-disgust, inadequacy in every activity, deep depression, and even suicide; or, b. calm, euphoria, blurred reality and high self-esteem to the point of omnipotence or self-approval for gratification of impulses otherwise inhibited.

In many medical schools, an alcoholic patient is never presented to the students nor the subject discussed. True, his liver will be of concern, or his peripheral neuritis and esoteric interest may be aroused over his Wernicke's Syndrome; *but the alcoholic himself and his alcoholism is not deemed worthy of consideration.*

We feel that the subject of alcoholism should be discussed in medical and in nursing schools, and that alcohol education should be presented to the general public.

For several years, we have advocated alcohol education in the public schools when enough well-trained teachers can be found. Education by television offers a start in this direction. One such course has been in progress for two years. Lectures on alcoholism are being given in medical schools and nursing schools. Senior year nurses are attending AA meetings in conjunction with their instruction. The growing importance of Al-Anon should

be stressed. This is a companion group to AA (Alcoholics Anonymous) for the relatives and friends of alcoholics.

Two of the most helpful organizations to a physician in practice are emergency crew squads and Alcoholics Anonymous. Both these organizations should receive the heartfelt cooperation of all physicians. Al-Anon is playing an increasingly important role as alcoholics are being detected at earlier ages before families and jobs have been lost. The group (Al-Anon) should also receive the full support of all physicians.

Treatment to be adequate must consist of at least three parts:

1. Treatment of the acute phase of the disease;
2. Long range treatment of the patient, the family and those closest to the patient;
3. Treatment of the community.

Truly, alcoholism is a family disease and it is necessary, if you wish to be successful in treatment, to look beyond the alcoholic himself. All members of the family are affected by having to live with or put up with an alcoholic mate or parent.

In the community, there is still a stigma attached to being an alcoholic (actually, of course, there is no stigma when people are enlightened regarding alcoholism) though less than in former times. The best way to overcome this, of course, is through an informed community. Here is the area in which education of everyone is concerned and all methods of communication should be used, including the lecture platform, radio, television, newspapers and the schools.

WILLIAM S. SLOAN, M.D., *Chairman*
JAMES ASA SHIELD, M.D.
EBBE C. HOFF, M.D.
WILLIAM F. GIBBS, M.D.

Advisory to Woman's Auxiliary

Your committee is happy to report that the Auxiliary is as busy as ever and is in such good condition that we have not had to meet this year. It has followed with interest the activities of the Auxiliary under the able guidance of Mrs. James Moss.

FLETCHER J. WRIGHT, JR., M.D., *Chairman*
JAMES M. MOSS, M.D.
WALTER A. PORTER, M.D.

DELEGATES TO THE 1964 MEETING THE MEDICAL SOCIETY OF VIRGINIA

Where no name is listed it is indicative that no delegate or alternate was reported in time for publication.

<i>Delegates</i>	<i>Alternates</i>
Accomack	
Dr. Walter Eskridge	Dr. Donald F. Fletcher
Albemarle	
Dr. W. Copley McLean	Dr. H. L. Archer
Dr. John L. Guerrant	Dr. Cary N. Moon
Dr. William B. Pollard	Dr. E. Meredith Alrich
Dr. Thomas S. Edwards	Dr. E. P. Cawley
Dr. Guy F. Hollifield	Dr. R. G. MaGruder
Alexandria	
Dr. John C. Watson	Dr. H. H. Ferrell, Jr.
Dr. James M. Moss	Dr. C. A. Hudson
Dr. F. Preston Titus	Dr. James D. Mills, Jr.
Alleghany-Bath	
Dr. George Chucker	Dr. George Fischer
Dr. T. M. Winn	Dr. William J. Ellis
Dr. M. B. Jarman	Dr. Donald S. Myer
Dr. Louis Houff	Dr. Mead Edmunds, Jr.
Amherst-Nelson	
Arlington	
Dr. Thomas A. McGavin	Dr. Robert L. Norment
Dr. K. C. Latven	Dr. Sidney A. Tyroler
Dr. Robert B. Neu	Dr. Howard O. Mott
Dr. Joseph O. Romness	Dr. Robert E. Byrne
Augusta	
Dr. Boyd H. Payne	Dr. J. Treacy O'Hanlan
Dr. James A. Higgs, Jr.	Dr. William G. Painter
Dr. Charles L. Savage	Dr. Theron R. Rolston
Bedford	
Botetourt	
Buchanan-Dickenson	
Dr. Bradley D. Berry	Dr. R. W. Hess
Dr. J. P. Sutherland	Dr. T. D. McDonald
Charlotte	
Culpeper	
Dr. O. K. Burnett	Dr. Robert L. Cassidy
Danville-Pittsylvania	
Dr. Ralph R. Landes	Dr. W. C. Fitzgerald
Dr. F. H. McGovern	Dr. B. H. Byerly
Fairfax	
Dr. Carl P. Parker, Jr.	Dr. Robert C. Hunt
Dr. C. Barrie Cook	Dr. Thomas E. O'Brien
Dr. John E. Prominski	Dr. J. D. Zylman
Dr. Henry G. Bryan	Dr. Kenneth W. Berger

<i>Delegates</i>	<i>Alternates</i>
Fauquier	
Dr. Evan H. Ashby, Jr.	
Floyd	
Dr. F. Clyde Bedsaul	Dr. Ernest E. Moore
Fourth District	
Dr. James T. O'Neal	Dr. James L. Hamner
Dr. Clyde G. O'Brien	
Dr. Earl M. Bane	Dr. William B. Bishop
Dr. Charles C. Ashby	Dr. Robert S. Smith
Dr. John S. Prince	Dr. R. C. Allison
Dr. Emerson D. Baugh, Jr.	
Dr. C. C. Nuckols	Dr. William Shelton
Dr. Robert W. Bradley	
Dr. A. Epes Harris, Jr.	Dr. C. W. Scott
Dr. Ray A. Moore, Jr.	Dr. Anthony J. Munoz
Dr. Ben H. Knight	
Dr. Kasper Kaufman	Dr. Maurice S. Rosenberg
Dr. John G. Easterling	Dr. Ronald E. Miller
Dr. William Grossmann	Dr. Joseph P. Whittle
Fredericksburg	
Halifax	
Dr. Lloyd Eastlack	Dr. William C. Brann
Hampton	
Hanover	
Dr. Claude Kelly	Dr. Richard Lee
James River	
Dr. Russell N. Snead	Dr. A. C. Whitley
Dr. W. A. Pennington	Dr. Garland Dyches
Dr. J. H. Yeatman	
Lee	
Loudoun	
Louisa	
Lynchburg Academy	
Dr. Joseph L. Platt	
Dr. Ernest G. Scott	
Dr. Charles W. Whitmore	
Mid-Tidewater	
Dr. William H. Hosfield	
Dr. A. W. Lewis, Jr.	Dr. A. W. Lewis, Sr.
Dr. Carl A. Broadus	Dr. G. V. Jackson, Jr.
Dr. Douglas Andrews	Dr. J. W. Chinn
Dr. Harold W. Felton	Dr. A. L. Van Name
Dr. Raymond S. Brown	Dr. T. E. Smith
Dr. H. L. Shinn	Dr. S. N. Ransone
Dr. M. H. Harris	

*Delegates**Alternates**Delegates**Alternates***Newport News**

Dr. E. B. Newborne	Dr. T. C. Lawford
Dr. Samuel H. Mirmelstein	Dr. I. F. Nesbitt
Dr. John Q. Hatten	Dr. R. T. Peirce
Dr. Russell Buxton	Dr. D. J. Cracovaner

Norfolk

Dr. James M. Wolcott, Jr.	Dr. Claiborne W. Fitchett
Dr. Harry M. Frieden	Dr. Gervas S. Taylor, Jr.
Dr. R. Bryan Grinnan, Jr.	Dr. Jerome E. Adamson
Dr. Alter Laibstain	Dr. Richard C. Reed
Dr. Robert J. Faulconer	Dr. T. W. Gouldin
Dr. Mallory S. Andrews	Dr. William E. Boyd
Dr. Robert L. Payne, Jr.	Dr. R. Cecil Chapman

Northampton

Dr. John R. Mapp	Dr. E. M. Henderson
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Northern Neck

Dr. Horace E. Kerr	Dr. Thomas R. Travis
Dr. A. B. Gravatt, Jr.	Dr. M. B. Lamberth, Jr.
Dr. J. Motley Booker	Dr. Harold E. Sission
Dr. Paul C. Pearson	

Northern Virginia

Dr. J. S. Shaver	Dr. William B. Crawford
Dr. James Holsinger	Dr. M. J. W. White
Dr. Elizabeth Sherman	Dr. Donald H. McNeill
Dr. George H. Smith	Dr. John C. Hortenstine
Dr. John P. Snead, Jr.	Dr. C. L. Riley
Dr. James R. York	Dr. Carroll Iden

Orange

Dr. H. C. McCoy	Dr. H. F. W. Mohrmann
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Patrick-Henry

Dr. Edwin T. McNamee, Jr.	Dr. I. V. Magal
Dr. Leslie Faudree	Dr. Bate C. Toms, Jr.
Dr. William D. Lewis	Dr. Harry C. Foster, Jr.

Portsmouth

Dr. William S. Terry	Dr. L. L. Davis, Jr.
Dr. Neil Callahan	Dr. Russell M. Cox

Prince William**Richmond Academy
of Medicine**

Dr. J. Robert Massie, Jr.	Dr. Hunter McGuire, Jr.
Dr. Daniel D. Talley, III	Dr. Thomas F. Stratford
Dr. Richard A. Michaux	Dr. Thomas P. Overton
Dr. Arthur Klein	Dr. Richard W. Dodd
Dr. R. Campbell Manson	Dr. Darryl K. Gilliam
Dr. H. Fairfax Conquest	Dr. Joseph F. Kell

Dr. William T. Tucker	Dr. William H. Cox
Dr. William C. Gill, Jr.	Dr. Gordon D. Hall
Dr. J. Langdon Moss	Dr. William S. Lloyd
Dr. William R. Hill	Dr. John Paul Jones
Dr. J. Shelton Horsley, III	Dr. William Kyle Smith
Dr. Robert Irby	Dr. Robert O. Williams
Dr. J. R. Grinels	Dr. David Pollack
Dr. Carl W. Meador	Dr. James A. Finger

Roanoke Academy

Dr. George S. Hurt	Dr. W. P. Tice
Dr. J. Lawson Cabaniss	Dr. Frederick M. Jacobs
Dr. Harry B. Stone, Jr.	Dr. Richard H. Fisher
Dr. W. H. Kaufman	Dr. Franklin L. Angell
Dr. Philip C. Trout	Dr. Robert L. Keeley
Dr. Ira Hurt	Dr. Charles A. Young, Jr.

Rockbridge

Dr. O. H. McClung, Jr.	Dr. John McClung
	Dr. T. B. Hedrick

Rockingham**Russell County****Scott****Southwestern Virginia**

Dr. C. W. Hickam	Dr. George W. Kelly
Dr. Carl E. Stark	Dr. W. R. Chitwood
Dr. George B. Kegley	Dr. C. D. Moore, Jr.
Dr. Joseph H. Early, Jr.	Dr. J. Glen Cox
Dr. C. O. Finne	Dr. O. O. Smith, Jr.
Dr. S. A. Tuck	Dr. L. E. Dunman
Dr. C. Frederick Johnston	Dr. J. S. Shaffer
Dr. C. W. Richardson	Dr. T. R. Jarvis, Jr.
Dr. Andrew F. Giesen	Dr. Blake Fawcett
Dr. William M. Gammon	Dr. Lawrence Stringfellow

Tazewell

Dr. Robert A. Abernathy

Tri-County

Dr. George J. Carroll	Dr. Philip R. Thomas
Dr. Ivan Steele	Dr. J. A. Murray
Dr. W. H. Chapman	Dr. Edward C. Joyner
	Dr. Hugh Warren, Jr.

Virginia Beach

Dr. James P. Charlton	Dr. Albert M. Dickson
Dr. J. A. White	

Williamsburg-James City

Dr. Armistead D. Williams
Dr. Hugh G. Stokes

Wise

Dr. W. B. Barton	Dr. C. H. Henderson
Dr. Frank Handy	

Presidents of The Medical Society of Virginia

*Dr. James McClurg, Richmond	1821	*Dr. Lomax Gwathmey, Norfolk	1906
*Dr. William Foushee, Richmond	1822	*Dr. Paul B. Barringer, Charlottesville	1907
*Dr. William Foushee, Richmond	1823	*Dr. Wm. F. Drewry, Petersburg	1908
*Dr. James Henderson, Richmond	1824	*Dr. Stuart McGuire, Richmond	1909
Meetings Discontinued			
*Dr. Robert William Haxall, Richmond	1841	*Dr. E. T. Brady, Abingdon	1910
*Dr. Robert William Haxall, Richmond	1842	*Dr. O. C. Wright, Jarratt	1911
*Dr. Frederick Marx, Richmond	1843	*Dr. Hugh M. Taylor, Richmond	1912
*Dr. Thomas Nelson, Richmond	1844	*Dr. Southgate Leigh, Norfolk	1913
*Dr. William A. Patteson, Richmond	1845	*Dr. Stephen Harnsberger, Catlett	1914
*Dr. William A. Patteson, Richmond	1846	*Dr. Samuel Lile, Lynchburg	1915
*Dr. John A. Cunningham, Richmond	1847	*Dr. Joseph A. White, Richmond	1916
*Dr. William A. Patteson, Richmond	1848	*Dr. Geo. A. Stover, South Boston	1917
	1849	*Dr. Ennion G. Williams, Richmond	1918†
*Dr. Robert William Haxall, Richmond	1850	*Dr. Ennion G. Williams, Richmond	1919
*Dr. Beverley R. Wellford, Fredericksburg	1851	*Dr. Paulus A. Irving, Farmville	1920
*Dr. James Beale, Richmond	1852	*Dr. Alfred L. Gray, Richmond	1921
*Dr. Thomas P. Atkinson, Danville	1853	*Dr. E. C. S. Taliaferro, Norfolk	1922
*Dr. Carter P. Johnson, Richmond	1854	*Dr. John Staige Davis, University	1923
*Dr. H. C. Worsham, Dinwiddie	1855	*Dr. W. W. Chaffin, Pulaski	1924
*Dr. H. C. Worsham, Dinwiddie	1856	*Dr. Hunter H. McGuire, Winchester	1925
*Dr. James Bolton, Richmond	1857	*Dr. W. L. Harris, Norfolk	1926
*Dr. Levin S. Joynes, Richmond	1858	*Dr. J. Shelton Horsley, Richmond	1927
Meetings Discontinued			
*Dr. R. S. Payne, Lynchburg	1870	*Dr. J. W. Preston, Roanoke	1928
*Dr. R. S. Payne, Lynchburg	1871	*Dr. J. Bolling Jones, Petersburg	1929
*Dr. A. M. Fautleroy, Staunton	1872	*Dr. Charles R. Grandy, Norfolk	1930
*Dr. Harvey Black, Blacksburg	1873	*Dr. J. Allison Hodges, Richmond	1931
*Dr. A. G. Tebault, London Bridge	1874	*Dr. I. C. Harrison, Danville	1932
*Dr. S. C. Gleaves, Wytheville	1875	*Dr. J. C. Flippin, University	1933
*Dr. F. D. Cunningham, Richmond	1876	*Dr. R. D. Bates, Newtown	1934
*Dr. J. L. Cabell, University	1877	*Dr. F. H. Smith, Abingdon	1935
*Dr. J. H. Claiborne, Petersburg	1878	*Dr. P. St. L. Moncure, Norfolk	1936
*Dr. L. S. Jones, Richmond	1879	Dr. J. M. Hutcheson, Richmond	1937
*Dr. Henry Latham, Lynchburg	1880	*Dr. G. F. Simpson, Purcellville	1938
*Dr. Hunter McGuire, Richmond	1881	Dr. A. F. Robertson, Jr., Staunton	1939
*Dr. G. W. Semple, Hampton	1882	*Dr. H. H. Trout, Roanoke	1940
*Dr. W. D. Cooper, Morrisville	1883	Dr. W. B. Martin, Norfolk	1941
*Dr. J. E. Chancellor, Charlottesville	1884	*Dr. Roshier W. Miller, Richmond	1942
*Dr. S. K. Jackson, Norfolk	1885	Dr. J. M. Emmett, Clifton Forge	1943
*Dr. Rawley W. Martin, Chatham	1886	*Dr. C. B. Bowyer, Stonega	1944
*Dr. Bedford Brown, Alexandria	1887	Dr. H. B. Mulholland, Charlottesville	1945
*Dr. Benjamin Blackford, Lynchburg	1888	*Dr. Julian L. Rawls, Norfolk	1946
*Dr. E. W. Row, Orange C. H.	1889	*Dr. W. L. Powell, Roanoke	1947
*Dr. Oscar Wiley, Salem	1890	*Dr. Guy R. Risher, Staunton	1948
*Dr. W. W. Parker, Richmond	1891	*Dr. M. Pierce Rucker, Richmond	1949
*Dr. H. Grey Latham, Lynchburg	1892	*Dr. W. C. Caudill, Pearisburg	1950
*Dr. Herbert M. Nash, Norfolk	1893	Dr. C. Lydon Harrell, Norfolk	1951
*Dr. Wm. P. McGuire, Winchester	1894	Dr. John T. T. Hundley, Lynchburg	1952
*Dr. Robt. J. Preston, Abingdon	1895	Dr. James L. Hamner, Mannboro	1953
*Dr. Wm. L. Robinson, Danville	1896	Dr. V. W. Archer, Charlottesville	1954
*Dr. Geo. Ben Johnston, Richmond	1897	Dr. Carrington Williams, Richmond	1955
*Dr. Lewis E. Harvie, Danville	1898	Dr. James P. King, Radford	1956
*Dr. Jacob Michaux, Richmond	1899	Dr. James D. Hagood, Clover	1957
*Dr. Hugh T. Nelson, Charlottesville	1900	Dr. H. C. Bates, Arlington	1958
*Dr. J. R. Gildersleeve, Tazewell	1901	Dr. W. P. Adams, Norfolk	1959
*Dr. R. S. Martin, Stuart	1902	Dr. Allen Baker, Roanoke	1960
*Dr. J. N. Upshur, Richmond	1903	Dr. Guy W. Horsley, Richmond	1961
*Dr. Joseph A. Gale, Roanoke	1904	Dr. Russell V. Buxton, Newport News	1962
*Dr. Wm. S. Christian, Urbanna	1905	Dr. Fletcher J. Wright, Petersburg	1963
		Dr. Richard E. Palmer, Arlington	1964

*Deceased.

†Owing to influenza epidemic during World War I, the council met in 1918, and Dr. Williams was continued as President.

Woman's Auxiliary....

PROGRAM

of the

FORTY-SECOND ANNUAL CONVENTION WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

Norfolk, Virginia October 11-14, 1964

Headquarters—Golden Triangle Motor Hotel

A cordial invitation is extended to all members of the Woman's Auxiliary to The Medical Society of Virginia, their guests, and the wives of physicians attending the convention to participate in all social functions and to attend the general meeting of the Auxiliary.

Tickets purchased in advance for the luncheon may be picked up at the registration desk, and tickets for the Norfolk Tour will be available at the registration desk.

Registration Hours

Sunday, October 11..... 3:30 P.M.
Monday, October 12..... 9:00 A.M. to Noon

Coffee Hours

8:00 A.M. to 9:30 A.M. Monday, October 12 and Tuesday, October 13, Suite #600.

Sunday, October 11, 1964

4:00 P.M.—Pre-Convention Board Meeting, 4th Floor Annex, Golden Triangle. All State Officers, Directors, Committee Chairman, County Presidents and Presidents-Elect are expected to attend.

Mrs. James M. Moss, President, presiding.

8:30 P.M.—“Pops” Concert by the Norfolk Symphony Orchestra Center Theatre, Norfolk

Monday, October 12, 1964

9:30 A.M.—Formal opening of the Forty-Second Annual Convention of The Woman's Auxiliary to The Medical Society of Virginia, 4th Floor Annex, Golden Triangle.

Mrs. James M. Moss, President, presiding.

Invocation—Mrs. F. Clyde Bedsaul, Floyd, Chaplain

Pledge of Loyalty—I pledge my loyalty and devotion to the Woman's Auxiliary to The American Medical Association. I will support its activities, protect its reputation, and ever sustain its high ideals.

Greetings—Richard E. Palmer, M.D., President, The Medical Society of Virginia

Address of Welcome—Mrs. Daniel N. Anderson, President, Woman's Auxiliary to the Norfolk County Medical Society.

Response—Mrs. Richard E. Palmer, Alexandria

Roll Call—Mrs. N. M. Canter, Jr., Harrisonburg, Recording Secretary

Convention Announcements—Mrs. William F. Gibbs, Norfolk, General Chairman

Minutes of the Forty-first Annual Convention—Mrs. N. M. Canter, Jr.

Presentation of Honored Guests

Mrs. William H. Evans, Youngstown, Ohio, President, Woman's Auxiliary to the American Medical Association

Mrs. Paul Gray, Batesville, Arkansas, President, Woman's Auxiliary to the Southern Medical Association

Report of the Treasurer—Mrs. Robert L. Norment, Arlington

Address—Mrs. William H. Evans, Youngstown, Ohio, President, Woman's Auxiliary to the American Medical Association

Recommendations from the Board of Directors

New Business

Unfinished Business

A.M.A.—E.R.F. Awards—Mrs. Malcolm H. Harris, West Point, Chairman

Report of Delegates to the Forty-first Annual Convention, Woman's Auxiliary to the American Medical Association—Mrs. M. R. Schlanger, Portsmouth

Remarks by the President and Recognition of State Officers and Committee Chairmen.

Report of Credentials Committee—Mrs. Mallory S. Andrews, Norfolk

Report of Nominating Committee—Mrs. A. Broadus Gravatt, Jr., Kilmarnock, Chairman

Election of Officers

Courtesy Resolutions—

In Memoriam—Mrs. F. Clyde Bedsaul, Chaplain

Adjournment

12:30 P.M.—Inaugural Luncheon, Key Club, Golden Triangle

Mrs. James M. Moss, President, Presiding

Invocation—Mrs. F. Clyde Bedsaul, Chaplain Luncheon

Presentation of Honored Guests

Address by Arthur L. Miller, M.D., F.A.C.S.

“Woman's Place in Politics and Medicine”

Installation of Officers—Mrs. William H. Evans, President, Woman's Auxiliary to the American Medical Association

Presentation of President's Pin and Gavel—Mrs. James M. Moss

Presentation of Past President's Pin—Mrs. A. Broadus Gravatt, Jr.

Inaugural Remarks—Mrs. W. Nash Thompson, Stuart, Virginia

Convention Acknowledgements—Mrs. John L. Rosenthal, Norfolk

Fashion Show—Berson's, Norfolk

Adjournment

4:00 P.M.—Post-Convention Board Meeting, 4th Floor Annex, Golden Triangle. All new State Officers, Directors, Committee Chairmen, County Presidents, and Presidents-Elect are expected to attend.

Mrs. W. Nash Thompson, President, presiding

Tuesday, October 13, 1964

8:00 A.M.—Past Presidents' Breakfast, Parlor Suite, Golden Triangle

Mrs. A. Broadus Gravatt, Jr., Chairman

9:00 A.M.—Post-Convention Workshop, 4th Floor Annex, Golden Triangle. All new State Officers, Directors, Committee Chairmen, County Presidents, and Presidents-Elect are expected to attend

Mrs. W. Nash Thompson, President, presiding

2:00 P.M. to 5:00 P.M.—Bridge, Golden Triangle

2:00 P.M. to 5:00 P.M.—Norfolk Tour (Includes a visit to the MacArthur Memorial)

6:30 P.M.—Social Hour, East Ballroom, Golden Triangle

7:30 P.M.—Annual Banquet of The Medical Society of Virginia, West Ballroom, Golden Triangle

9:00 P.M.—Dance, Ballroom, Golden Triangle

Committee on Arrangements

General Chairman	Mrs. William F. Gibbs
Co-Chairman	Mrs. John L. Rosenthal
Registration and Credentials	Mrs. Mallory S. Andrews
Hospitality	Mrs. Frank A. DeLaura
Treasurer	Mrs. Frank E. Rowell
Program and Printing	Mrs. W. Clarke Pole
Press and Publicity	Mrs. Robert H. Thrasher
Luncheon	Mrs. Harry Frieden
Fashion Show	Mrs. Aubrey L. Shelton
Decorations and Flowers	Mrs. Milton Bland
VIP Hostess	Mrs. Theodore Adler
Pages	Mrs. William E. Boyd
Golf and Bridge	Mrs. John A. Byrd
Tour	Mrs. Joseph T. McFadden
Scrapbooks	Mrs. Nicholas Badin
Past Presidents' Breakfast	Mrs. A. Broadus Gravatt, Jr.

Northern Neck.

The spring meeting of the Woman's Auxiliary to the Northern Neck Medical Association was held on May 28th at the Indian Creek Yacht and Country Club, Kilmarnock.

The president, Mrs. Harvey W. Goode, Jr., presided. The chairman of the revisions committee, Mrs. C. Y. Griffith, presented the completely revised bylaws which were voted into effect by the members.

At the conclusion of the business meeting, the members and their guests went to Weems to visit Mrs. Olds, a most interesting and talented elderly lady who lives on the site of Corotoman, the home of Robert "King" Carter. She showed them many artifacts found on the property and recounted some of the history of King Carter and his estate.

The fall meeting of the Northern Neck Auxiliary will be held on October 22.

DIMPLE GRAVATT (Mrs. A. B., Jr.)
Publicity Chairman

Virginia (Jinx) Thompson Paarfus,

Wife of Dr. E. C. Paarfus, was killed instantly in an airplane crash on July 7 about 6:30 A.M. Jinx was born at Mt. Airy, N.C., June 11, 1923.

She graduated from Stuart High School at the age of 14. She received her college degree from Westhampton College of the University of Richmond. She was a member of the Stuart Baptist Church, Sunday School Teacher, member of PTA, and the Stuart Chapter O. E. S. #25.

She was instrumental in securing the Blood Program in Patrick County and served as Co-Chairman of the Blood Mobile visits. She reorganized the Girl Scouts and was serving as leader of Troop #176. She was a licensed pilot and also had a Red Cross Life Saving Certificate.

She was Chairman of Members-at-Large for the Woman's Auxiliary to The Medical Society of Virginia for 1963-64 and tripled its members. In the coming year she was to serve as Publications Chairman.

In her small community she met every need for an organizer and worker. She gave of herself freely. She had no idle moments. She rated highest as a devoted wife to her doctor husband. A most understanding and loving Mother, the training she gave her four children cannot be surpassed.

At her request on July 9 at sunrise her ashes were strewn by her husband over her much loved Blue Ridge Mountains across from their home.

Jinx Thompson Paarfus was a "double" niece of Mrs. W. Nash Thompson, President-Elect of Woman's Auxiliary to The Medical Society of Virginia, and Dr. W. Nash Thompson, a member of Council of The Medical Society of Virginia.

T. J. LASSEN, M.D.

Reading Disability—A Case History and an Essay

The patient is a 12-year-old boy from a professional family. He is the youngest of three siblings. Birth was difficult and prolonged. Otherwise, medical history is negative. Early growth and development were normal, but he seemed to cling more to his mother than did the other children. He is raised in a good home and there are no special domestic conflicts; however, the father is away from the home a great deal and has given the patient little attention. The mother has over-protected him to some degree. During the first year in school he did well but apparently was reading by rote memory. The school employed the "word method" technique and very little phonetics were used. Some reading difficulties were noted in the second and third grade, but nevertheless, the boy got fairly good grades. The Iowa Silent Reading Test showed a very low score in the third grade. The parents got a copy of the report and were a bit concerned but the school did not suggest or offer any special help. The child got through the next three grades very well in spite of his poor reading, relying on verbal information, guessing, his good rote memory and general intelligence. The patient is presently in the 7th grade and has run into considerable difficulties because of the more extensive reading and his grades have dropped. Nevertheless, he continues to get along fairly well and is making a good social adjustment. He finds some compensation in high sports achievement. Psychological examination finds the

patients to be above average intelligence and he scores much higher on verbal tests than on performance tests. Achievement tests show that he is at least three years behind in reading—while he is ahead in math. Personality tests show latent aggression, mild anxiety and attachment to the mother. Psychiatric examination finds a boy who is well developed for age, nice in appearance, friendly and well mannered. He is somewhat shy and restricted, and slightly apprehensive. He feels inferior because of his poor reading and at times he thinks he must be stupid. The patient originally was left handed and was trained to use his right hand, and at the present time he appears ambidextrous. His spatial orientation is poor and he easily becomes confused in new situations. In reading as well as in writing he frequently reverses letters, syllables, and at times numbers. Diagnosis: *Primary Reading Disability*—Possibly due to a reversal problem (Strephosymbolia) Recommendation: Remedial reading by private tutor two or three times a week over a period of two years.

The Essay

Being aware of the tremendous task confronting our public schools and the great efforts put forth to meet the needs and improve the techniques, this writing is not to criticize our schools in any way. It is rather to commend a continued interest and, if possible, to initiate a renewed tackling of the reading problems among elementary school children.

The author has observed over many years as psychiatrist in a mental hygiene clinic that a great number of young patients have reading problems. This is a rather common finding in the many juvenile delinquents examined for the courts. It may be that if

LASSEN, T. J., M.D., *Psychiatrist-Director of Lower Peninsula Mental Hygiene Clinic, Newport News.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

all our delinquent children were examined one would find a high percentage with a reading problem. In the clinic caseload are usually found a great variety of possible etiological factors, such as primary mental deficiency, brain damage, neurotic traits, domestic discord, lack of supervision, physical and cultural deprivation. The reading problems met in a mental hygiene clinic are, often secondary, but nevertheless frequently an additional complication in need of attention parallel with the psychotherapy.

It would appear likely that outside a mental hygiene clinic there exists an even greater number of children with a primary type of reading disability and that such cases are not diagnosed early enough or treated effectively. When a reading handicap continues through a child's school career, the general education of the child is obviously hampered and secondary emotional conflicts can occur, i.e., feelings of inferiority, ("I must be stupid"), or acting-out behavior, ("I'll show them"). Under any circumstances, a reading handicap makes the school experience a continuous frustration for the child and he (75% boys) often struggles in vain against the well-meaning pushing by concerned parents and teachers who often repeat: "You have the ability! Why don't you learn!" The frequency of this type of disability in children with normal or above normal intelligence may be known to the school. It is the impression that it is not uncommon and is possibly increasing.

It might be interesting to theorize about the etiology of the primary reading disability. The case history cited is typical. The possibility of an organic brain disorder first comes to mind. The disability might be caused by a condition similar to alexia in adults after strokes and possibly results from anoxia at birth. More popular are the theories involving the problems of reversal and ambidexterity. Such problems are frequently seen in these children who are confused about right and left and up and down, generally poorly oriented in space and as to their body image. If this latter is the most

frequent cause of reading disability, the kinesthetic method of teaching would be logical. One may further wonder why so many of these boys are so closely attached to their mothers, while fathers tend to reject them or temporarily deny the existence of a problem. It is also a question as to why reading handicaps appear to be more common today than a generation ago.

To make a longer list, one must consider quantitative factors related to the population explosion and increasing instability in our society, as well as changes in teaching methods. A general factor would be the larger classes and a more specific question would be in regard to the phonetic versus the word-reading method. While some children might learn quicker with the latter method, other children might be better off with the more established phonetic method.

This hypothetical discussion about etiological factors is not considered complete. Textbooks have not been consulted. It has been presented merely to indicate the uncertainty and a lack of knowledge about any one specific cause of reading disability. It must be admitted that speculations are rather fruitless in a setting where children are in need of immediate help. If the impression that reading disability is becoming increasingly common is correct, something should be attempted to counteract this now, rather than to wait and hope for a solution from research now in progress.

The individual parents certainly have a great deal of responsibility in the education of their children and discipline with hard work may bring results. But most parents are hardly capable of carrying through an effective reading program at home. It is not realistic to expect the parents to tackle a reading disability. They will naturally seek help from the school. The school system has the best knowledge about reading problems in the community and the specialists in education are already exerting valuable efforts in remedial reading.

The schools are probably now in the process of developing new plans in this field.

Nevertheless, it is felt appropriate to make suggestions towards increased effort. As with any disability, early recognition certainly is most important. It is amazing to note the number of parents who claim ignorance of their children's reading disability during the early grades of elementary school.

It is suggested that all children in second or third grade be examined specifically for reading disability (first grade pupils may read the easy books by memorizing). Differentiation should be made between the various types of learning disabilities and recommendations made accordingly. A medical examination should be routinely done for the slow learners, especially taking into consideration visual and auditory handicaps. Since a brain disorder may be a possible factor, an emphasis should be placed on the neurological examination with a specific check for convulsive disorders (i.e., *petit mal*) in children who seem inattentive and confused at times, or demonstrate erratic behavior.

Detection of a reading handicap should be carefully explained to the parents in a conference, rather than by the report card. The most important thing is that adequate measures be taken in the early grades to help overcome the deficiency. Children of normal and above normal intelligence should not be failed in school because of a reading handicap and neither should they be sent to regular summer school. In both instances they will tend to repeat the same mistakes and patterns without much new learning and continue their struggle against losing odds. It is suggested that these children be sent to a special reading clinic (nonexistent in most communities). The practice of having a few remedial reading teachers circulating among the

schools is both inefficient and insufficient. Children with a primary reading disability may need several years of daily training to overcome their handicap and, therefore, the training must be continuous and daily. Hence, it is suggested that the public school system attempt to create one, or several, reading clinics with qualified staff and that children with this type of handicap have daily remedial reading sessions as part of their regular school program.

To establish such a new service within our school system might, of course, strain the already overloaded budget, but the need and the demand for such service is pertinent. The school board may, however, want more specific information about the need. If a study of the reading disabilities in our schools would be of interest, a mental hygiene clinic could be of help in cooperation with the staff of the school system.

In summary, it is recognized that reading difficulties are commonly seen in emotionally disturbed children treated in the mental hygiene clinic and in juvenile delinquents evaluated for the courts. In addition, it is noted that there may be a primary type of reading disability which is more common than anticipated. The cause of reading handicaps appear to be multiplying. There may be some specific organic factors, not clearly understood at this time. The importance of this handicap is emphasized and early diagnosis and effective treatment is stressed. It is felt the public school system has the primary responsibility and knowledge, and the psychiatrist should be cautious in invading the field of education but should be willing to help.

Paroxysmal Nocturnal Hemoglobinuria

Paroxysmal nocturnal hemoglobinuria (PNH), or the Marchiafava-Micheli syndrome, is a rare acquired thrombo-hemolytic disease of baffling etiology, bizarre symptomatology and curious bio-chemical characteristics.

The disorder is uncommon (less than 250 cases having been reported) of insidious onset, chronic in nature and occurring in both sexes especially in young and middle aged adults. It is a serious disease with a poor prognosis, although some patients live many years and spontaneous remissions although unusual have been reported.

The disease is characterized by intravascular hemolysis occurring especially during sleep and unrelated to time of day, posture, food intake, cold or exercise, frequently complicated by venous thromboses.

It is postulated that hemolysis is the result of an acquired defect in the erythrocyte; only a percentage (3-15%) of the red cells being affected. The abnormal cells have been shown to have the following abnormalities:

1. Diminished acetylcholinesterase activity.
2. Abnormal stromal lipoprotein.
3. Abnormally pitted cell surface when viewed with the electron microscope.
4. Increased tendency toward thrombosis.

In addition to the erythrocytes, defects in leukocytes and platelets have also been suggested and there is considerable evidence indicating aberrations in certain serum factors.

Hemolysis is usually mild and almost asymptomatic except during periods of exacerbations (crises), which may be precipitated by a variety of stressful situations including infections, trauma, surgery, transfusions, menstruation, emotional upsets and

fatigue. Various drugs and food products have also been associated with initiation of hemolytic crises.

Clinically, the onset is usually insidious and the patient frequently seeks medical advice because of fatigue, weakness, backache or abdominal or substernal pain. A careful history will usually elicit the passage of dark urine associated with sleeping. It has been suggested that hemolysis occurs during sleep because of the fall in blood pH which occurs during this state. The hemolytic phenomenon is probably not due to excessive CO₂ retention since it has been shown that artificial washing out of CO₂ during sleep does not reduce hemolysis. It has been suggested that hemolysis may result from an increased activation of thrombin. Four factors have been implicated in the serum of patients with PNH. Two of the factors are hemolytic towards PNB erythrocytes. One is heat labile and is destroyed only slowly by thrombin. The other is heat stable. They require complement, properdin, Ca++ and Mg++ ions for activation. The other two factors are inhibitory towards the hemolytic process and of these, again one is heat stable and the other heat labile. The former is rapidly destroyed by thrombin. Any interference in the delicate balance of these activating and inhibitory factors may precipitate a crisis. Thrombin encourages hemolysis because of its ability to rapidly inactivate the hemolytic inhibiting factor.

During crises, the laboratory findings are quite characteristic. Anemia is usually severe with counts of 2,000,000/mm³ or less. The red cells are mildly macrocytic and may show moderate aniso/poikilocytosis. Increased regeneration is manifested by a 10-20% reticulocytosis and by the presence of nucleated red cells in the peripheral blood. The erythrocytes show normal osmotic and mechanical fragility and no agglutinating or

hemolytic antibodies can be demonstrated. Leukopenia is very typical and the granulocytes consistently show abnormally low levels of alkaline phosphatase. Infections are a frequent complication. Thrombocytopenia is a common finding; however, hemorrhagic tendencies are rare. The platelets show an increased tendency towards agglutination. Free hemoglobin and methemoglobin are present in the plasma.

Hyperbilirubinemia of the direct type is common and jaundice is readily apparent in severe cases. Urine urobilinogen is increased and free hemoglobin is found in the urine. The urinary sediment stains positively for iron and hemosiderin deposits may be found in desquamated epithelial cells. The bone marrow usually shows a normoblastic hyperplasia. Ham's "serum acid test" is a valuable diagnostic procedure. A positive test is one in which hemolysis of the patient's cells occurs in vitro when suspended in either slightly acidified normal serum or in the patient's own acidified serum. False positive results may occur in spherocytic anemias.

The most serious and most common complication is increased susceptibility to venous thrombosis which is responsible for over 50% of deaths. Most commonly these involve the cerebral vessels, although portal vein thromboses are also frequent as are venous thromboses of the extremities.

Treatment is unsatisfactory. Transfusions using saline washed cells is a valuable adjunct

during aregenerative crises. Antibiotics are important in controlling the frequent accompanying infection. Moderate anticoagulation with dicumarol is reported to decrease hemolysis by inhibiting thrombin formation, thus permitting the serum hemolytic inhibiting factor to operate. This therapy is recommended only for seriously anemic patients and should not be given during crises. Heparin and protamine are contraindicated. Dextran may temporarily control hemolysis by binding properdin, one of the serum components necessary for the activation of the hemolytic serum factors.

If complications can be avoided, most patients will survive 10 years or longer. In a small number of cases, spontaneous clinical improvement has been observed and the serum acid test has reverted to normal.

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Phenylketonuria—A Report and An Opportunity

The dedicated work of many physicians, clinicians and researchers, has provided remarkable advances in the field of inborn errors of metabolism. The mode of inheritance of phenylketonuria is now well known as is the method of preventing the natural sequelae of this dysfunction of metabolism of phenylalanine.

Experience has demonstrated that with more wide-spread testing of newborns for P.K.U., the incidence of this defect is now thought to be one in twelve thousand. Originally, it was estimated to occur at a frequency of approximately one in twenty thousand. Perhaps with more general use of testing methods, not only in the newborn but in the neonatal period and in early infancy, the frequency of P.K.U. would be found to be even greater than is now apparent.

For several years urine testing for phenylketonuria has been performed in the Maternal and Well-Baby Clinics throughout Virginia by the State Health Department. Some cases have been discovered and are under treatment.

In 1962, the "Guthrie" test, developed by Dr. Robert Guthrie, State University of New York School of Medicine and the Buffalo, New York Children's Hospital, became a practical procedure for routine testing by blood. Beginning in October 1962 this mode of testing was offered by the Virginia State Health Department to all maternity hospitals throughout the Commonwealth. The response was very gratifying and the program has been a continuing one.

In addition, from October 1962 until January 1964, the State Health Department participated with thirty-one other states in a nationwide testing program for phenylketonuria under the auspices of the Children's Bureau of the Department of Health, Education and Welfare. During that time, newborn infants had blood tests for this error in metabolism while still in the hospital. The most recent report concerning this program shows that in the thirty-two states, 320,379 infants were tested; of this number, 29 were confirmed as phenylketonurics and all were started on proper therapy. Also, because of this testing program interest was stimulated at several hospitals and additional cases in somewhat older infants and young children were discovered.

Discovery of every case of phenylketonuria is imperative. A lifetime of mental deficiency or mental retardation will result in cases not discovered or in cases when treatment is not begun early enough. With our present knowledge, there is no reason for any newborn child becoming mentally retarded due to phenylketonuria. All phenylketonurics should be discovered promptly before any brain damage has been done.

Well over 90,000 babies are being born in Virginia each year; most of them are not being tested for phenylketonuria by early, sensitive and dependable blood examination. For this reason, a testing service is being offered to the physicians of the State of Virginia by the State Department of Health through its Bureau of Maternal and Child Health and the Bureau of Laboratories. This proposal has been approved by the Council and the Committee on Child Health of The Medical Society of Virginia.

Starting September 1, 1964, the materials for collecting blood specimens from infants seen in the physician's office will be offered without cost to the physician, and upon request to the State Laboratory office which normally serves the area in which the physician practices. The two items used in collecting a specimen are a blood collecting unit and the sterile, individually wrapped, blood lancet, plus instructions describing the method for impregnating the specimen of blood—three large drops—on the collecting unit. The time required to collect a satisfactory specimen is about one minute.

All specimens may be sent, daily or weekly, to the laboratory serving the area of practice.* Laboratory results will be returned to the attending physician.

In order to assist the physician, the State Health Department has a broad program relating to the care and continued treatment of the positive case of phenylketonuria. Cases are placed upon the prescribed

nutrient which when started early enough and taken as directed, will prevent the natural sequelae—mental retardation, usually severe—of phenylketonuria. The cost of this nutrient is borne by the State when the family is unable to provide for this additional expense. The parents are requested, however, to reimburse the State in an amount at least equal to the cost of foods replaced by the nutrients provided. A description of this program is available to any physician upon request to the Bureau of Maternal and Child Health, Blanton Building, Richmond 19, Virginia.

With improved, more sensitive, more accurate testing methods for discovering phenylketonuria earlier in life, there is every reason to recommend this test as a routine procedure in every physician's office wherein infants and very young children comprise a portion of the physician's practice.

*Southwest District Laboratory, Abingdon, Virginia; District Laboratory, Luray, Virginia; State Health Department Laboratory, Richmond, Virginia.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	July	July	Jan.-	Jan.-
	1964	1963	July	July
	1964	1963	1964	1963
Brucellosis	4	—	12	3
Diphtheria	—	—	—	—
Hepatitis	48	38	349	564
Measles	404	381	13062	7894
Meningococcal Infections	5	6	43	68
Meningitis (Aseptic)	2	2	9	17
Poliomyelitis	—	—	—	1
Rabies (in Animals)	10	8	201	136
Rocky Mt. Spotted Fever	9	10	20	20
Streptococcal Infections	516	289	7150	6389
Tularemia	—	1	4	6
Typhoid Fever	1	—	11	3

Early Medicine in South Carolina

SOUTH CAROLINA historians generally, and medical antiquarians especially, have waited longer than their counterparts in Virginia, Kentucky and Tennessee for the definitive history of medicine in their State. The absence of such an account has motivated Dr. Joseph I. Waring, of Charleston, to prepare an excellent volume dealing with medicine during the first 155 years following the settling of South Carolina in 1670. This 400 page book, entitled *A History of Medicine In South Carolina 1670-1825*, was published by the South Carolina Medical Association and "manufactured" by The R. L. Bryan Company of Columbia, South Carolina. A second book is in prospect by the same author. This will bring the story up to the present time.

The choice of Dr. Waring as author was a logical and happy one. He is a native Charlestonian who received his undergraduate and medical training in that city. In addition to his duties as Editor of the Journal of The South Carolina Medical Association he is Librarian of the Medical Society of South Carolina (Charleston) and President of The South Carolina Historical Society.

The early years of the Charleston settlement are lost in a miasma of epidemics, hurricanes, and intermittent fevers. The year 1699 is remembered for its smallpox epidemic which was spread overland from Jamestown by the Indians, and yellow fever which came by water from the West Indies. The summer was brought to dramatic close by a devastating hurricane and the remaining houses of the settlement were largely consumed by a subsequent earthquake and fire. A Charleston minister attributed the town's misfortunes, in part, to the local citizenry who, he stated, were "generally speaking the Vilest race of Men upon the Earth." By way of proof he noted the recent invasion of South Carolina by many undesirables from the Bermudas, Jamaica, Barbadoes, Pennsylvania and New England. He made a strong case of it for as Charleston's society improved the health of its people became better. But there was still room for improvement as late as 1756, for an analysis of the 105 deaths occurring that year in the Parish of St. Philip indicated that 98 citizens succumbed before reaching the age of 50 and only one survived his seventieth birthday.

The physicians of South Carolina and Charleston, especially, were hard pressed during the American Revolution, for the fighting was prolonged in this area and smallpox, malaria, typhus and measles reached epidemic proportions. In 1789 the Medical Society of South Carolina was formed. This association was intended to represent the entire state but most of the members resided in the immediate Charleston area. The same situation existed 30 years later when The Medical Society of Virginia was founded in Richmond, for its roster included few practitioners outside of the city. On the other hand the records of the South Carolina Society are remarkably complete as compared with the meager data we have in Virginia concerning our early medical activities.

The first medical college south of the Potomac was opened in Charleston in the Fall of 1824 and five months later the initial class was graduated. The remainder of this volume deals largely with the early physicians of South Carolina. The practitioners of South Carolina appeared to have been influenced to a greater degree by the teaching of Benjamin Rush than their contemporaries in Virginia, with the result that copious bleeding was widely practiced. The physicians in Charleston were possibly more scholarly than their fellow practitioners in Virginia. A remarkable number were interested in botany, and many were included in the list of physicians who had flowers named for them, which was compiled by Dr. M. Pierce Rucker when he was Editor of the Virginia Medical Monthly. They, too, had their little eccentricities and one opportunist ran a small cemetery in conjunction with his practice. The struggle for existence may have been less keen or tempers less volatile in our sister southern state for there is no mention of members of the medical profession participating in duels as sometimes happened in Virginia.

The index is adequate and an appendix, which is remarkably detailed, contains many tabulations and listings. The illustrations are numerous and well chosen. Dr. Waring has set a high standard in this first and most readable volume about South Carolina medicine. He will be hard pressed to surpass it in the second.

HARRY J. WARTHEN, M.D.

New Members.

The following members were admitted into The Medical Society of Virginia during the month of July:

Evelyn Patton Daniel, M.D., Louisa
Griffith B. Daniel, M.D., Louisa
Robert Young Fidler, M.D., Richmond
Fernando Luis Garzon, M.D., Marion
Milton Greenberg, M.D., Danville
Karl Vardell Gregg, M.D., Newport
News
William E. Harlan, Jr., M.D., Richmond
Lockhart B. McGuire, M.D., Charlottesville
James Alexander Maultsby, M.D., Danville
Laura Gaetjen Morris, M.D., Norfolk
Joaquin H. Piedra, M.D., Falls Church
David W. Richardson, M.D., Richmond
Albert Peter Spaar, Jr., M.D., Charlottesville
Thomas Austin Sydnor, Jr., M.D., Charlottesville
Benjamin H. Word, Jr., M.D., Charlottesville
William Pharo Wiltsee Young, M.D., Roanoke

Dr. William Parson,

Chairman of the Department of Internal Medicine at the University of Virginia, has gone to Kampala, Uganda, where he will serve for a year as visiting professor of medicine at the University College of Makerere. The institution is one of the constituent colleges of the University of East Africa and its medical school is the only fully developed one serving Kenya, Tanganyika and Uganda. Dr. Parson was invited to Makerere as a temporary staff member of the Rockefeller Foundation which has selected the school as one of those around the world to which it is giving support.

American Medical Association.

At the annual meeting of the Association, held in San Francisco in June, Dr. Norman A. Welch, Boston, was installed as president. Dr. Donovan F. Ward, Dubuque, Iowa, was named president-elect.

Dr. Samuel M. McDaniel, Jr.,

Norfolk, has been installed as President of the Virginia Heart Association at its annual meeting in Richmond in June.

Dr. Jack S. Shaver

Has accepted a position with E. I. duPont de Nemours and Company at Waynesboro. For the past eight years he has been in general practice at Woodstock.

Dr. Edward E. Haddock,

Richmond, has been selected by the White House to serve on the National Citizens Committee for Community Relations.

The Virginia Board of Medical Examiners

Began its activities of the June 1964 meeting with several committee meetings on the 8th in Richmond. The Board meeting was an all-day-long affair on the 9th. At this meeting, 94 doctors were accepted for licensure by endorsement from other states to practice medicine in the State of Virginia. This was the last Board meeting for President Dr. Snowden Hall of Danville. Dr. Hall has served ten years on the Board and is replaced by Dr. Walter C. Fitzgerald also of Danville. Also retiring from the Board after ten years of service is Dr. Henry Dodge, D.C., of Richmond. His replacement is Dr. Carl Miller, D.C., of Front Royal. The Advisory Committee on Physical Therapy has had as its chairman, since its inception in 1958, Miss Susanne Hirt, R.P.T., of the Medical College of Virginia.

Miss Hirt had served two terms and retired. Replacing her is Mrs. Margot T. Danker, who is Miss Hirt's assistant in the physical therapy school at the College.

The Board conducted its examination in the four days following the Board meeting. Two hundred and eighteen doctors were licensed to practice in Virginia.

Flying Physicians Association.

The tenth annual meeting of this Association will be held at the Riviera Hotel, Palms Springs, California, from September 27 through October 2, according to Dr. Joseph H. Early, Hillsville, chairman of the Virginia Chapter. The continuing theme for the scientific portion of the program will be the overriding importance of safety as it relates to the operation of private aircraft.

Membership in the Association is open to all duly licensed physicians who are members of medical societies approved by the board of directors and who hold valid pilot's certificates. Total current membership now exceeds 1,600 persons. Of these, 22 are practicing physicians in Virginia.

Hospital Staff Members.

Dr. Pierce D. Nelson, Norton, has been named chief of staff of the Wise Appalachian Regional Hospital. Dr. Joseph M. Straughan, Wise, was elected president. Others elected are Dr. Charles H. Henderson, Norton, deputy chief of staff; Dr. Lewis K. Ingram, Norton, vice-president; Dr. Frederick Maphis, Jr., Wise, secretary; Dr. John C. Buchanan, Clintwood, chief of medicine; Dr. Ronald N. Shelley, Norton, chief of surgery.

Residency in Psychiatry.

Vacancy open in dynamically-oriented three year approved program closely affiliated with the University of Kentucky Medical School. Includes comprehensive instruction and supervised hospital and outpatient experience with children, adoles-

cents and adults. Stipend \$4205 to \$11,725 per annum. United States citizenship required. Contact Chief of Staff, VA Hospital, Lexington, Kentucky. (*Adv.*)

Medical Building,

Buckingham Community, available. Two suites—one for doctor and one for dentist. Located in community of 10,000 with immediate surrounding area of 20,000 more. This is a wonderful opportunity. Call Jackson 2-5000, Mr. Kettell, 313 North Glebe Road, Arlington, Virginia. (*Adv.*)

G. P. Associate

Wanted. Thirty-seven year old, white, well established general practitioner wants young general practitioner as associate in City of Virginia. No obstetrics. Salary the first year, during trial period. New, large, modern office. Write #10, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

G. P. Partner

Wanted to join two other general practitioners doing rural practice in Southwest Virginia. Hospital privileges in three hospitals and medical directors for a new nursing home. An opportunity to do a family practice in a beautiful community with a stable economy and with an income greater than the national average. Write #15, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Needed.

General physician—family internist by four-man group in growing rural practice in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000 to \$18,000 depending on qualifications. Write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries

Dr. Hugh Benton Brown, Jr.,

Draper, died July 24th after a long illness. He was fifty-nine years of age and a graduate of the Medical College of Virginia in 1931. Dr. Brown had been a member of The Medical Society of Virginia for thirty-two years.

His wife, two daughters and a son survive him.

Dr. Thomas Lorimer Gemmill,

Radford, died July 29th after an illness of about three years. He was fifty-eight years of age and graduated from the Medical College of Virginia in 1930. Dr. Gemmill worked at the Central State Hospital in Petersburg before locating in Radford in 1937. During World War II he served for three years as a lieutenant commander in the

U. S. Navy and saw service in the Pacific and in Newfoundland. He was a member of the staff of the Radford Community Hospital. Dr. Gemmill was a member of The Medical Society of Virginia, having joined in 1936.

His wife and a daughter survive him.

Dr. Ludwell Fitzhugh Lee,

Fredericksburg, died August 1st, at the age of seventy-seven. He graduated from the Medical College of Virginia in 1913. Dr. Lee was Stafford County Medical Examiner and a member of the Board of Directors of the Northern Neck Electrical Cooperative. He had been a member of The Medical Society of Virginia for twenty-five years.

His wife, two sons and two daughters survive him.

Guest Editorial

A Point of View

THE LATE Dr. Joseph Klauder of Philadelphia was a great dermatologist but Jo Klauder was much more than that. He was also a great gentleman. Once, at the "nineteenth hole" of a national meeting I was having a good time quoting from memory passages from what the late Dr. Douglas Freeman termed the greatest address ever delivered on a Confederate subject: Gordon McCabe's "Defense of Petersburg". It is gorgeous writing. The words roll and thunder, like the far away guns of that famous artillery, Pegrams Battery, of which command McCabe was major.

Klauder, who took life rather seriously, said to me "Are you not keeping something alive which should be allowed to die?" "Is it wise?" This troubled me for Jo Klauder did not talk idly.

On my way home I stopped by Charleston, S. C., and for an afternoon was a guest of Mr. Augustine Smythe, a prominent lawyer and an authority on South Carolina history. I said to him "I am bothered" and told him what Dr. Klauder had said. He pondered a moment before answering, then said "Do you know the Confederate Monument at Columbia, erected years ago by the Women of South Carolina for their personal dead? No? —Well, it's a modest affair erected by the women out of their scant resources, pin money, egg money. You would miss it, walking up to the Capitol but it has an unusual inscription upon it. I have a copy in my desk and will send it to you. Send this to Dr. Klauder and he may think differently." I did. Jo replied "This proves there are always two sides to every question."

The Inscription:

"This monument perpetuates the memory of those who true to the instincts of their birth, faithful to the teachings of their fathers, constant in their love for the State, died in the performance of their duty; who have glorified a fallen cause by the simple manhood of their lives, the patient endurance of suffering and the heroism of death, and who, in the dark hours of imprisonment, in the hopelessness of the hospital,

in the short, sharp agony of the field, found support and consolation in the belief that at home they would not be forgotten.

“Let the stranger who may in future times read this inscription, recognize that these were men whom power could not corrupt, whom death could not terrify, whom defeat could not dishonor. And let their virtues plead for judgment of the cause in which they perished. Let the South Carolinian of another generation remember that the State taught them how to live and how to die. And that from her broken fortunes she has preserved for her children the priceless treasure of their memories, teaching all who may claim the same birthright that truth, courage and patriotism endure forever.”

A great war was fought because these were men “Whom power could not corrupt and death could not terrify.” We may not be made of the sterner stuff our forefathers were but if there be moments of meditation in the power hungry circles of Washington—there should be something foreboding in the thought that possibly we are.

THOMAS W. MURRELL, M.D.

Recent Trends in the Medical Treatment of Hypertension

JULIAN R. BECKWITH, M.D.

JAMES L. CAMP, M.D.

ALFON MOSCA, M.D.

Charlottesville, Virginia

The great majority of patients with elevated blood pressure have essential hypertension. Although this disease cannot be cured, a program of treatment as outlined here will usually control it.

THERE HAVE BEEN MANY RECENT ADVANCES in the knowledge of the etiology of hypertension as well as the application of the information obtained by clinical investigation and by animal experimentation.

Patients with blood pressure elevation have been cured of their disease by removal of renal arterial obstruction.¹ Other patients have been found to have a pheochromocytoma² or an aldosterone secreting tumor, removal of which has been followed by restoration of normal blood pressure and relief of symptoms.³ Hypertension thus caused may resemble essential hypertension in all respects.

There still remain, however, a large number of patients with blood pressure elevation for which no cause can be found, and it is

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We are grateful to the Abbott, CIBA, Geigy, Merck Sharp & Dohme, Robins and Squibb Companies for their generous supply of drugs many of which have been used in this study.

the treatment of these patients that will be discussed in this paper.

Though the disease cannot be cured, the blood pressure can usually be reduced with resulting decrease in the severity of symptoms, improvement in the hemodynamic effects on the heart and kidneys and finally on the longevity of the patient.^{1,4,5} These effects can often be accomplished through the judicious use of the various drugs that are now available for the management of hypertension.

Each patient should be evaluated carefully and a program instituted that is designed to accomplish the desired reduction of blood pressure with a minimum of undesirable side effects. This can sometimes be done with relative ease whereas at other times the blood pressure seems to be fixed and one must be satisfied with a moderate decrease only. In addition, the avoidance of side reactions may be impossible if the blood pressure is reduced further.

The establishment of a baseline blood pressure is mandatory. To accomplish this the patient should be observed over a period of several days during which time the blood pressure is taken four to six times a day. This is best carried out in a hospital. The next best method of determining basal blood pressure is to have the patient come to the office daily for a week, take his blood pressure when he arrives and then again after a twenty-minute rest. Visiting the patient at the home at a regular time has advantages also. If the diastolic blood pressure is consistently greater than 95 mm. of mercury and the systolic greater than 160 mm. of

mercury, drug therapy should be seriously considered.

A number of drugs that are available will be listed and their actions reviewed, then the specific use as applied to treatment will be discussed.

1. Rauwolfia Compounds
2. Hydralazine (Apresoline)
3. Ganglion Blocking Agents
4. Diuretics
 - a) Benzothiadiazine Group
 - b) Chlothaldione
5. Adrenergic Blocking Agents
 - Guanethidine
 - Alpha-Methyl Dopa

Rauwolfia Compounds

These substances deplete the body stores of norepinephrine and of serotonin, both in the brain and peripheral tissues. This is followed by a mild tranquilizing effect as well as a mild drop in blood pressure accompanied by bradycardia.^{6,7}

This hypotensive effect is accomplished without reduction of cardiac output, renal function or cerebral blood flow. The effects of the drug occur gradually over a period of several weeks and persist an approximately equal time after it has been discontinued.

Since depression may appear it is important that patients receiving reserpine be observed frequently particularly when it is first administered. Other side effects include nightmares, drowsiness, nasal stuffiness, fluid retention, and aggravation of a pre-existing peptic ulcer.

The Rauwolfia compounds are most useful in combination with other hypotensive agents.

Reserpine usually produces optimal action in doses of not more than 0.5 to 1.0 mg. daily. Initial amounts of 0.25 mg. t.i.d for one week and then 0.25 mg. b.i.d. are usually satisfactory.

Hydralazine (Apresoline)

This drug will relax, smooth muscles with resulting dilatation of constricted arteries

and decreased vascular resistance in the renal, femoral, digital, splanchnic and cerebral beds. The cardiac output is increased, tachycardia occurs and the renal blood vessels are dilated after hydralazine is administered.

The blood pressure is reduced as a result of this peripheral action, but in addition, there is a central effect on the vasomotor center.^{8,9}

Mild side effects include tachycardia, palpitation, headache, and occasionally flushing, bad taste and nausea.

Angina pectoris accompanied by electrocardiographic abnormalities may occur because of the increased cardiac output.

An LE-like syndrome has been reported characterized by fever, arthralgia, splenomegaly, edema and the finding of LE cells in the peripheral blood four months to four years after beginning hydralazine therapy. This is unlikely to occur, however, if doses of not more than 200 mg. per day are used.⁸

Hydralazine is more useful in the management of hypertension in combination with other agents than when administered alone. Initial doses of 25 mg. b.i.d. should be given, increasing at weekly intervals until 200 mg. are administered per day. Larger daily amounts may be used in patients with very severe hypertension.

Ganglion Blocking Agents

These drugs were introduced as therapeutic aides in the management of hypertension in 1950,¹⁰ and have been the backbone of medical management in severe forms of the disease since. Though an increase in the life span of patients with malignant hypertension has been demonstrated such effects are difficult to evaluate in the milder forms of the disease.¹¹

These drugs block the transmission of autonomic nervous influences through the sympathetic and parasympathetic ganglia.^{11,12} Pooling occurs in the veins with resulting decrease in venous return, reduction in cardiac output and fall in blood pressure particularly with the patient in the upright position. A decrease in peripheral

arteriolar resistance is probably also a factor in the reduction of the blood pressure.¹¹

The hypotensive effect of the ganglion blocking drugs is enhanced by alcohol consumption, hot weather, and previous sympathectomy. Patients who are receiving a diuretic concurrently are particularly sensitive to the ganglion blocking agents and thus require a smaller than usual dose. When used in conjunction with the Rauwolfia compounds a more stable action is reported.¹²

Side effects of these drugs result from their action on the parasympathetic as well as sympathetic ganglia. Dry mouth, blurred vision and constipation are the most prominent effects of the former and giddiness or even syncope due to excessive orthostatic hypotension result from the latter. This may be hazardous in patients with arteriosclerosis involving the cerebral and coronary vessels or those with renal insufficiency.

A number of the ganglion blocking drugs have been introduced with varying predictability of response, time of onset and duration of action due to differences in absorption by the G.I. tract. Mecamylamine is completely absorbed, however, and is therefore predictable in its effect and has an average duration of approximately seventeen hours.¹² This seems at the present time to be the drug of choice of the ganglion blocking agents.

Because of the unpleasant and potentially serious side effects in addition to the inconvenience of regulation and adjustment of dosage the ganglion blocking agents should be reserved for patients with advanced hypertension, and should be used in conjunction with other drugs such as reserpine, diuretics and hydralazine.

Mecamylamine should be administered in doses of 2.5 mg. twice daily at the onset, increasing to 2.5 mg. three times daily in three days. Thereafter, the dose may be increased every three days by 2.5 mg. until a satisfactory response is obtained. Larger doses should be given in the morning and at lunch time since smaller amounts are needed at night when the patient is relaxed. The

blood pressure should be taken in the supine and standing position before and one hour after each dose and the drug regulated by the standing blood pressure.

Cathartics such as cascara sagrada are usually adequate to control constipation, but occasionally prostigmin must be added in doses of 15 to 30 mg. three times a day also.

It is probable that some of the newer drugs such as Guanethidine will replace the ganglion blocking agents in our therapeutic armamentarium because of their lack of parasympathetic side effects.

Diuretics

Dietary restriction of sodium which was suggested as a method of management of hypertension by Allen¹³ in 1920 was subsequently extensively employed by Kampner.¹⁴ This resulted in a decrease in blood pressure of a high percentage of patients so treated and even reversal of the malignant syndrome was observed in some patients. This diet caused a negative sodium and water balance with subsequent reduction in plasma and extracellular fluid volume shortly after its institution; however, long term studies have not been made.¹⁵

A similar negative water and sodium balance and blood pressure reduction have been reported following the administration of ammonium chloride and mercurial diuretics.¹⁶

The introduction of oral sodium depleting drugs such as the benzothiadiazine group and chlorthalidone has been a real advance in the management of hypertension because of their effectiveness and convenience of administration. They cause sodium excretion by causing decreased sodium reabsorption in the proximal renal tubules through enzyme inhibition.¹⁶

A transient reduction in plasma and extracellular fluid volume as well as a decrease in the total exchangeable sodium results. However, there appears to be little relation of the amount of these changes to the degree of blood pressure reduction.¹⁷

Decrease in GFR and RPF and increase in

blood urea nitrogen as well as reduction in cardiac output also follow their use.¹⁷

An increase in arteriolar reactivity to the sympathetics is associated so that greater responses to ganglion blocking agents are observed.

Though the plasma and extra-cellular fluid volumes return nearly to their normal values after several months the blood pressure reduction is maintained. It appears, therefore, that the early hypotensive effect is probably due to sodium and body fluid depletion but another mechanism accounts for the long term blood pressure reduction. It has been suggested that the sodium ion gradient across the arteriolar wall is a factor in the control of arteriolar tone and that after salt depleting procedures, the sodium concentration within the cell is decreased relatively more than that in the extra-cellular fluid. The sodium gradient, therefore, rises, arteriolar tone decreases and the blood pressure is reduced.¹⁸

Side effects include hypokalemia, hyperuricemia and decreased carbohydrate tolerance. In addition, skin rash and thrombocytopenia have been reported.¹⁶

Diuretics alone have only a mild hypotensive effect, but after sodium depletion the response to the Rauwolfia compounds, ganglion blocking agents and Guanethidine is considerably increased.¹⁶

Hydrochlorothiazide should be given in doses of 50 mg. daily for one week then 50 mg. twice daily or three times daily may be employed. Comparable doses of other thiazide diuretics are just as effective.

Chlorthalidone which has pharmacological effects similar to the benzothiadiazine drugs is administered 50 mg. three times a week increasing to 100 mg. every other day.

Since some patients develop potassium depletion, the physician should be on the alert for symptoms such as lassitude and weakness, and the serum potassium level should be determined at intervals. Potassium supplements of potassium chloride one gram (14 mEq) three times a day or more may be necessary.

Adrenergic Blocking Agents

Guanethidine is a sympathetic blocking drug which has its action by depleting the nerve endings of nor-epinephrine and preventing post-ganglionic passage of nerve impulses to the end organs. It inhibits the action of ephedrine, amphetamine and tyramine since these drugs act by releasing nor-epinephrine at the nerve ending.^{19,20} There is no interference with injected nor-epinephrine; it does not block the ganglia and has no parasympathetic effect.

Guanethidine causes blood pressure reduction by decreasing cardiac output as well as decreasing peripheral resistance. The lowered cardiac output which results from peripheral pooling due to decrease in vasomotor tone appears to be the major factor, however, in the reduction of the blood pressure. Orthostatic hypotension may be prominent and for this reason the dose of the drug should be adjusted according to the standing blood pressure. Hypotension may also follow exercise because of failure of vasoconstriction in certain areas while vasodilation develops in the active muscle.⁶ Renal plasma flow and glomerular filtration rate decrease moderately and the blood urea nitrogen frequently increases transiently.

The most prominent side effect is diarrhea, which is due to normal parasympathetic action in the presence of decreased sympathetic influence. Nasal stuffiness, and failure of ejaculation have also been reported.

Guanethidine is slowly and incompletely absorbed from the gastrointestinal tract, only twenty-four per cent of an ingested dose appearing in the urine after twenty-four hours. Several days are therefore required before a maximum steady effect is obtained.

Small doses of the drug should be given initially and gradually increased in order to avoid severe orthostatic hypotension. In many patients it is difficult to obtain a significant reduction of the blood pressure in the recumbent position without a serious drop in blood pressure in the erect position.⁶

Hot weather, alcohol, infections and exercise may be followed by severe orthostatic hypotension and because of this effect particular care should be used in patients with arteriosclerotic complications such as cerebral vascular disease, coronary artery disease and markedly reduced renal function.

The concomitant use of a natriuretic agent may decrease the dose requirements of Guanethidine.²¹

Doses of 10.0 to 25 mg. should be given initially and increased by 10 mg. at weekly intervals until a maximum optimum effect is obtained. If more than 200 mg. per day are required it is wise to give the drug in equal divided amounts a.m. and p.m.

Alpha Methyldopa

Though the mechanism of action of this drug is not definitely established at the present time, the blood pressure lowering effect is possibly due to interference with nor-epinephrine synthesis. There is no ganglion blocking effect.²⁰

Following the administration of this chemical, nor-epinephrine levels in the peripheral tissues are lowered similar to that which occurs after the administration of Guanethidine and Reserpine, however, adrenergic neuronal blocking is not produced.

During this blood pressure reduction considerable variation in renal plasma flow and glomerular filtration rate occurs. In some patients these are increased, in others they are unchanged, and in others decreased. However, in all patients the arterial blood pressure appears to be decreased relatively more than the renal blood flow indicating a reduction of renal vascular resistance.²²

The hemodynamic studies suggest that the lowering of blood pressure results from a decrease of peripheral resistance in addition to the reduction in the cardiac output. The latter may be due to peripheral venous pooling or possibly to a decrease of myocardial catechol amines.²²

This type of drug seems to offer possibi-

ties in the treatment of hypertension particularly in patients with reduced renal function. It has been given orally in doses of 250 mg. twice daily with increases twice weekly until a significant effect results. Diuretics are reported to potentiate its effect.²²

Principles of Management

The aim of management of patients with hypertension is to reduce the blood pressure to as nearly a normal level as possible with a minimum of side effects of the drug employed.

It is obviously impossible to place all patients in a particular class but in general the following classification is useful for therapeutic consideration.

1) *Mild slowly progressive hypertension.* These patients have a blood pressure of 170/100-200/115. This may vary considerably and may on occasions be just above normal.

2) *Severe fixed hypertension.* Patients in this group will always have a blood pressure above normal and this will usually be around 200-230/110-130. There is less variation in the blood pressure level of these individuals. The renal function is usually adequate.

3) *Accelerated severe hypertension* (Malignant phase) These patients have markedly elevated blood pressure of 250-300/130-150, retinopathy and usually decreased renal function. This condition may begin in patients whose blood pressure was previously normal or a patient with a more benign form of the disease may suddenly develop an accelerated phase.

Patients in the Class I group and usually in the Class II can be initially treated with drugs that have a mild hypotensive effect, beginning with one of the diuretics, and then adding reserpine. Occasionally a diuretic and a sedative will be adequate. If the blood pressure continues to be elevated, hydralazine can be given in doses of not more than 200 mg. daily. The following scheme is useful as a guide.

SCHEME I			
Time	Drug	Example	Dose
1st Mo.	Diuretic	Hydrochloro- thiazide	50 mg. daily—then after one week b.i.d.
2nd Mo.	Diuretic	Hydrochloro- thiazide	50 mg. b.i.d.
	Reserpine	Serpasil	0.25 mg. b.i.d.

Class II patients usually require a combination of drugs beginning with a diuretic and reserpine then adding hydralazine and finally guanethidine or mecamlamine. The following scheme is useful as a guide to the drug therapy of these patients.

SCHEME II			
Time	Drug	Example	Dose
1st Week	Diuretic	Hydrochloro- thiazide	50 mg. daily
	Reserpine	Serpasil	0.25 mg. t.i.d.
2nd Week	Diuretic	Hydrochloro- thiazide	50 mg. b.i.d.
	Reserpine	Serpasil	0.25 mg. b.i.d.
3rd Week	Diuretic	Hydrochloro- thiazide	50 mg. b.i.d.
	Reserpine	Serpasil	0.25 mg. b.i.d.
	Hydralazine	Apresoline	25 mg. q.i.d. in- creased to 50 mg. q.i.d. in 2 weeks.

If the blood pressure is not satisfactorily lowered, guanethidine should be added and reserpine discontinued.

Time	Drug	Example	Dose
6th Week	Diuretic	Hydrochloro- thiazide	50 mg. b.i.d.
	Hydralazine	Apresoline	50 mg. q.i.d.
	Adrenergic Blocking Agents	Guanethi- dine	10 mg. daily in- creasing at weekly inter- vals by 10 mg. increments until satisfactory re- duction of blood pressure is attained.

A ganglion blocking agent such as Mecamlamine may be used instead of Guane-
thidine as follows:

Drug	Example	Dose
Diuretic	Hydrochloro- thiazide	50 mg. b.i.d.
Hydralazine	Apresoline	200 mg. daily

Ganglion Blocking Agents	Mecamlamine	2.5 mg. b.i.d. increasing to 2.5 mg. t.i.d. and then by 2.5 mg. doses every 3 days until satisfactory blood pressure level is attained or side effects become too severe.
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Class III patients should be hospitalized. They have severe accelerated hypertension, are seriously ill and are particularly apt to develop renal insufficiency. It is imperative to lower the blood pressure as quickly as possible to a reasonable level. Full drug therapy should be instituted as soon as the diagnosis is made and evaluation completed. This should include diuretics, hydralazine in maximum doses and either guanethidine or a ganglion blocking agent. Guanethidine should be administered in increasing doses beginning with 10 mg. daily and increasing every three days by 10 mg. until the blood pressure is reduced. Mecamlamine may be used instead of guanethidine as previously described. Scheme III is a guide to this therapy.

SCHEME III			
Time	Drug	Example	Dose
1st Week	Diuretic	Hydrochloro- thiazide	50 mg. b.i.d.
	Hydralazine	Apresoline	25 mg. q.i.d. in- creasing to 400 mg. daily in 8 weeks.
	Adrenergic Blocking Drug	Guanethidine	10 mg. daily in- creasing every 3 days until the blood pressure is reduced.

(Mecamlamine may be given during the first week also before the full effect of Guanethidine is obtained or Mecamlamine may be given instead of Guanethidine).

It is important to emphasize that renal function should be followed because of the possibility of precipitating renal insufficiency by too rapid lowering of the blood pressure. Blood urea nitrogen determination should be done twice weekly, intravenous PSP and specific gravity of the urine at weekly intervals. The urine output should be followed carefully until the blood pressure is stabilized.

The prognosis of patients with malignant hypertension remains poor but it considerably improved by intensive therapy.^{23,24} This prognosis is largely determined by the renal function.²⁵

Comments

Treatment of hypertension should entail the management of the patient as well as his disease. Reassurance particularly with emphasis on the fact that he can live with a disease for many years is most important and it is mandatory that neither the patient or his physician be afraid of the blood pressure elevation. The apprehension of the physician is quickly sensed by the patient.

Except in the accelerated phase of hypertension, drug therapy should be employed slowly beginning with mild hypotensive agents and gradually increasing their dosage. After the effect of these is observed more potent drugs can be added.

There is good reason to believe that if the blood pressure can be reduced to a near normal level, the prognosis of the disease is greatly improved, though with arteriosclerotic complications this is not always feasible and a moderate reduction may be all that can be obtained without either precipitating dangerous complications of the disease or developing intolerable side effects of the drug.

Modern hypotensive agents are useful tools for the management of essential hypertension but there is no one ideal drug that can be given to all patients and the most appropriate program for an individual must be determined individually.

Just how long drug therapy of hypertension should be continued is impossible to accurately assess, but there is some evidence to indicate that a resetting of controlling mechanisms may occur if a low blood pressure is maintained for a sufficient length of time.²⁶

Summary

The approach to the patient with essential hypertension has been discussed and em-

phasis placed on the necessity of treatment. The pharmacology, dose and use of drugs employed in the management of hypertension have been reviewed.

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Drugs for Space Travelers

The problems of radiobiology or nuclear medicine pose some real challenges. Radiation injuries can be produced by many different sources; one of these is theoretically from ambient space radiation such as that encountered in the Van Allen belts. If space travellers, for various reasons, are required to spend protracted periods of time in these belts they may well need a drug which has anti-radiation properties. However, a more urgent need for anti-radiation measures is undoubtedly connected with nuclear devices which may be exploded in the earth's atmosphere. Recently Van Lancker, Wolf, and Mowbray at the University of Wisconsin have made significant progress in protecting primates from doses of 800 roentgens. Efforts are urgently needed to make available drugs which can be administered orally without toxic side-effects. This presents a major challenge to medicine, the biological sciences, and the military and civilian research organizations engaged in pharmacological research.—Brig. General Benjamin A. Strickland, Jr., USAF, MC, in *Military Medicine*, 129:1 (Jan.) 1964.

Serum Cholesterol and Triglyceride Distribution

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The search for factors influencing the development of atherosclerosis continues. The results of this study support the idea that both abnormal cholesterol and triglyceride metabolism may be important in atherogenesis.

ALTHOUGH THE PROBABLE IMPORTANCE of serum cholesterol in the production of atherosclerosis has been emphasized by many authors it is nevertheless clear that no particular serum concentration can be used to separate those who are developing atheromatous lesions from other individuals. The question as to whether a particular fraction of the plasma lipoproteins might be primarily involved has been raised and attempts to establish this have been made. Among these might be listed chylomicron concentration as emphasized by Moreton,¹ flotation separation as developed by Gofman and his associates,² and B-lipoprotein concentration.³ The uncertainty of present knowledge is emphasized by the fact that Moreton¹ emphasized the significance of chylomicrons while Gofman, et al. in their Atherosclerotic Index⁴ do not consider any lipoproteins with S_f values above 400, thus eliminating chylomicrons from consideration. Olson and Ves-

ter⁵ have also emphasized the probable insignificant role of chylomicrons in the process. Our laboratory has investigated the possible significance of the concentration of the "readily extractable" cholesterol as an etiological factor in atherosclerosis.⁶

Since none of these procedures has proven to be very effective in distinguishing between subjects with and without known atherosclerosis, the present investigation was undertaken. Its chief object was to determine whether the non-chylomicron serum cholesterol concentration would correlate better with the presence or absence of atherosclerosis than does total serum cholesterol. (The term chylomicron is used here to denote all of the material which rose to the surface during centrifugation for two hours at $20,000 \times g$ at $4-5^\circ C$). Since the triglyceride concentration not only greatly influences the percentage of the total cholesterol which is present in the chylomicron fraction^{7,8} but also may be important in itself in atherogenesis,⁹ it also was determined in many of the sera. As our chief interest was in the possible significance of such a fractionation in clinical practice, we usually obtained the blood samples in the morning following a light breakfast or in the early afternoon following a light lunch.

Method

An aliquot of the serum was centrifuged at $20,000 \times g$ for two hours at $4-5^\circ C$. Some of the infranate was carefully removed with a sharp pointed pipet. This fraction and the original serum was analyzed for cholesterol and triglycerides using previously described procedures.^{7,10}

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Results

The distribution of the serum cholesterol in normal males and females are shown in Figure 1. The tendency for cholesterol concentrations to rise with age is marked in both sexes. Male subjects over 40 years of age showed serum cholesterol concentrations

equivalent to 161 mg of triolein exceeded in only five per cent of male subjects in their twenties. It would thus appear that in our 26-40 year old male group a considerable number of them were already beginning to show an increase in serum triglycerides. In females this increase in triglycerides appar-

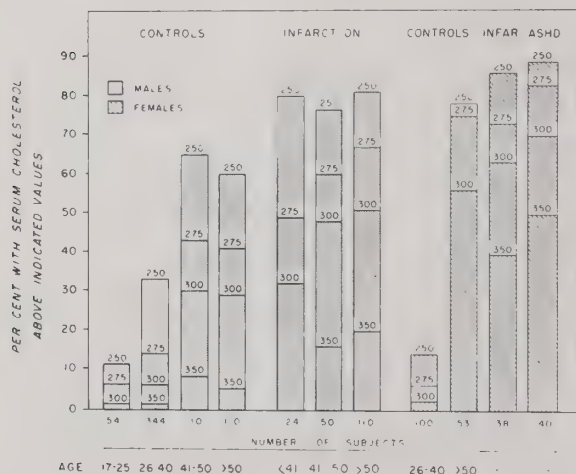


Fig. 1. Cont.—Controls, Infar.—Infarction
ASHD—Arteriosclerotic heart disease

in excess of 250 mg/100 ml over five times as frequent as the 17-25 year old group. Quite a similar observation was noted in the females over 50 years of age. The difference between the cholesterol concentration of subjects with myocardial infarction and others of comparable age but without clinical evidence of coronary artery disease was more definite in male than female subjects. In neither case, however, can it be considered a satisfactory method for separating the normals from the diseased group. The great difference between the young and the diseased groups show clearly the presence of hypercholesterolemia in a large percentage of the latter. A number of male subjects with arteriosclerotic heart disease has been studied. Their serum cholesterol distribution was found to be quite comparable to that observed in the myocardial infarction group.

Serum triglyceride results are shown in Figure 2. No values for males 17-25 years old are shown as the number in this age group studied was relatively small. Albrink,⁹ however, found a triglyceride concentration

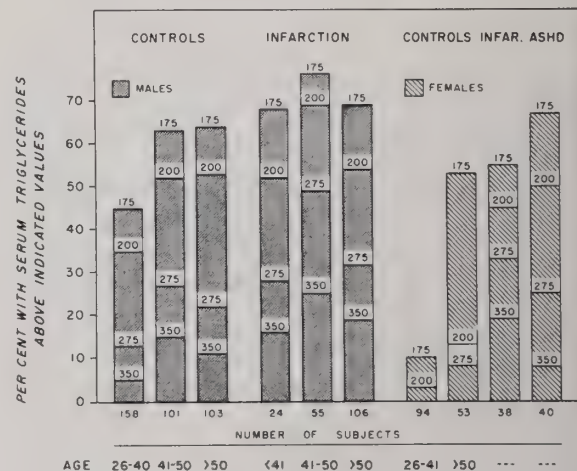


Fig. 2. Cont.—Controls, Infar.—Infarction
ASHD—Arteriosclerotic heart disease

ently came on later as only 10 per cent of the subjects 26-40 years of age were above 175 mg/100 ml. In both sexes the serum triglyceride difference between subjects with coronary artery disease and controls of comparable age was not marked except in the females at the 200 mg/100 ml concentration. However when the results on the coronary artery disease cases are compared with those on young subjects the differences are seen to be quite marked.

Infratane cholesterol and triglyceride concentrations are shown in Figures 3 and 4. In the case of both males and females the same general difference between the controls and those with coronary artery disease was found as for total serum cholesterol, indicating no apparent advantage of this method of fractionation. The same was also true of triglycerides in the case of males but in females a decided difference was obtained between the corresponding controls and the subjects with coronary artery disease. This was especially marked at the 200 mg/100 ml concentration.

Discussion

Our triglyceride results on male subjects confirm the work of Albrink,⁹ Carlson,¹¹ and Schrade et al.¹² in showing an elevation of serum triglyceride in many subjects with coronary artery disease. We have arbitrarily chosen 17 mg/100 ml as the upper limits of normal by our procedure, which involves the direct determination of glyceride gly-

emia also was approximately 10 times more frequent in the male subjects with infarction as compared with young males 17-25 years of age, it seems reasonable to assume that both abnormal cholesterol and triglyceride metabolism may be involved in atherogenesis. Gofman, et al.⁴ in their Atherogenic Index gave the lipoprotein as the S⁰f (12-400) 1.75 times the emphasis per mg of lipoprotein as the S⁰f (0-12) group. Since these lipoproteins contain cholesterol and triglycerides as well as phospholipids and protein, it is evident that all of these substances must be considered as constituent material of the various fractions. Olson and Vester⁵ suggest that the S⁰f (0-12) fraction represents the bare vehicle for the transport of triglycerides from the liver to adipose tissue, and that the range of lipoproteins noted in the low density group reflects the extent to which the vehicle is loaded with cargo, i.e. triglyceride. Albrink's studies on sera with a wide range of triglyceride concentrations support this general idea.⁸ Her results clearly show that as the triglyceride concentration rose above 6 mEq/liter (equivalent to 177 mg/100 ml of triolein) the percentage of the total cholesterol in lipoproteins of D 1.019-1.063 diminished while that in D 1.006-1.019 and chylomicrons increased. Her data showed the highest percentage of the total cholesterol in the D 1.006-1.019 fraction when the triglyceride concentration in terms of triolein was around 400 mg/100 ml. A higher serum triglyceride was associated with a lower percentage of the total cholesterol in both the D 1.006-1.019 and D 1.019-1.063 fractions, but a higher percentage in the chylomicron fractions. When the triglyceride concentration was approximately 2.5 gm/100 ml about 80 per cent of the total cholesterol was present in the material which rose to the surface when the serum was centrifuged at 20,000 x g for one hour. Comparable results have been obtained by us.⁷ Since chylomicrons probably play, at most, only a minor role in atherogenesis, it is quite possible that an excessively high triglyceride

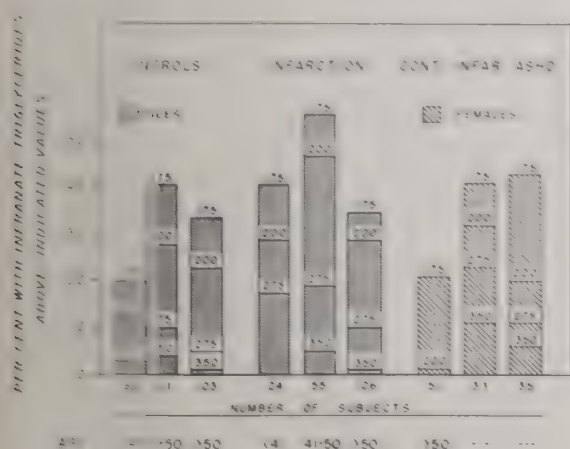


Fig. 3. Cont.—Controls. Infar.—Infarction
ASHD—Arteriosclerotic heart disease

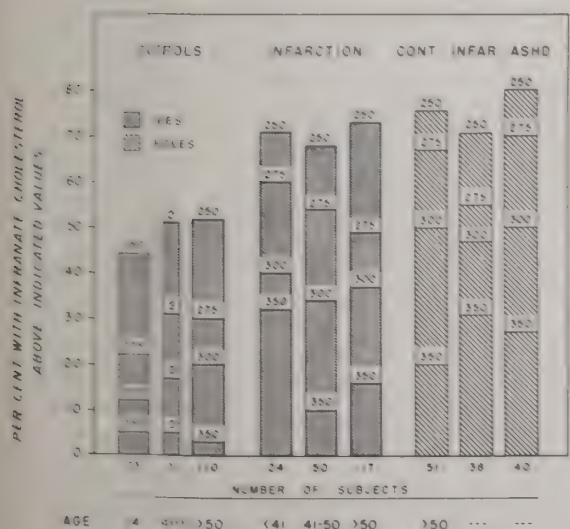


Fig. 4. Cont.—Controls. Infar.—Infarction
ASHD—Arteriosclerotic heart disease

cerol. Using this figure approximately 70 per cent of the male infarction group showed hypertriglyceridemia. The percentage found in females was slightly less than this.

Since the incidence of hypercholester-

concentration might exert a protective action even though a moderate degree of triglyceridemia might increase atherogenesis. The apparent protective action of a markedly elevated serum triglyceride concentration in rabbits fed an atherogenic diet has been quite well established. Intravenous injections of Triton WR 1339, which Kellner, et al.¹³ have shown to protect rabbits against atherosclerosis from cholesterol feeding, have been shown to decrease the cholesterol content of the non-chylomicron fraction below that of the control animals on the same diet, even though the total serum cholesterol was much higher.¹⁴ Rabbits fed a 0.5 per cent cholesterol diet plus hydrocortisone alcohol showed far higher serum cholesterol and triglyceride concentrations than control animals on the cholesterol diet itself, but in spite of this the hydrocortisone-fed animals showed less atherosclerosis.¹⁵ Duff and Payne¹⁶ found less atherosclerosis in alloxan-diabetic rabbits fed cholesterol than in controls fed the same diet. All their protected animals showed a marked increase in neutral fat, while the control animals showed only a slight rise. These authors write—"a definite correlation was found between the development of atherosclerosis and an increase of serum cholesterol that was out of all proportion to the increase of serum lipid phosphorus and neutral fat." It may be of some significance that of the 191 male infarction cases studied by us only four of them had triglyceride concentrations in excess of 800 mg/100 ml. All of these had markedly elevated serum cholesterol, the lowest being 370 mg/100 ml.

Since the chylomicron fraction probably plays a little role in atherogenesis, we have attempted to analyze our infranate data to determine whether any particular triglyceride concentration in conjunction with hypercholesterolemia (cholesterol above 275 mg/100 ml) would differentiate the subjects with coronary artery disease from the controls better than either fraction alone. The results have been somewhat disappointing. Even when we considered an infranate

triglyceride of only 130 mg/100 ml. only 43 per cent of the male subjects with myocardial infarction showed a triglyceride concentration above this and a cholesterol above 275 mg/100 ml, while 32 per cent of the corresponding controls did. Analysis of the results on male and female subjects with arteriosclerotic heart disease showed 51 and 57 per cent respectively with triglyceride and cholesterol concentrations above these figures. It seems quite possible that the values on the arteriosclerotic heart disease subjects were a truer indication of the serum lipids during the development of the disease than was the case with the infarction group. The latter group, knowing that they had a serious cardiac condition, and aware of the possible role of fats in bringing it on, were probably, on the whole, on a more restricted fat intake at the time the blood samples were taken than those with arteriosclerotic heart disease. A number of the infarction cases were known to be on a low-fat, low calorie diet at the time of sampling.

Summary

Comparison of serum cholesterol concentration in young males 17-25 years of age with those of male subjects with myocardial infarction showed hypercholesterolemia (values over 275 mg/100 ml) approximately 10 times more frequently in the infarcted group. The difference between the controls and the infarcted group was far less marked when subjects of comparable age were compared. Infarcted subjects under 41 years of age differed more from the corresponding controls than was the case with older age groups. Serum cholesterol concentration in control women over 50 years of age tended to be elevated and differed little from those found in myocardial infarction or those with arteriosclerotic heart disease. Analysis of the infranate following centrifugation at 20,000 x g for two hours showed on the whole no special advantage in separating the pathological group from the controls.

Male subjects with myocardial infarction showed a slightly greater percentage with hypertriglyceridemia (values over 175 mg/100 ml) than controls of comparable age. The difference, however, in the group over 50 years of age was very small and can hardly be considered of clinical significance. Women with coronary artery disease, however, showed a definitely greater percentage with triglycerides above 200 mg/100 ml than control subjects over 50 years of age. Infrapatellar triglyceride concentrations showed a still greater percentage difference between the controls and the women with coronary artery disease. The results, on the whole, support the idea that both abnormal cholesterol and triglyceride metabolism may be important in atherogenesis.

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Plastic Surgical Improvement of Rare Congenital Deformities

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Much can be done to correct congenital deformities by the early use of plastic surgery.

THE FOLLOWING NINE CASES of congenital deformities from our files are interesting in that they are very rare and of interest also are the techniques used to achieve what we believe to be satisfactory results, being well aware of our limitations when trying to duplicate the wonderful work of nature in creating a normal human being.

These congenital deformities should be corrected as soon as possible, not so much in order to improve the disturbed physiology, but especially to prevent or treat personality conflicts. As Longacre said, "Facial deformities are rarely physically disabling but present psychologic ramifications far beyond those of the physically handicapped."

Years ago, these congenital deformities were thought to be due to "amniotic bands", but recent consensus of opinion is that these bands are the result, not the cause, of fetal malformations. As Keith states, "Amniotic adhesions are never formed by a failure in the separation of the amnion from the embryo, but are always produced by and from the fetus, as a result of a dysplasia in fetal tissue."

From the Departments of Plastic and Reconstructive Surgery of Fairfax, Arlington and Alexandria County Hospitals.

Streeter, in a magnificent article in 1930, specifies that "structures that have frequently been mistaken for amniotic bands apparently fall into two categories: (a) macerated sheets of epidermis, (b) strands of hyalinized fibrous tissue which are the residua of the localized areas of defective tissue and which are a part of our story."

Streeter showed that intrauterine amputation of portions of limbs or of digits is due to focal deficiencies in fetal tissues and not to constriction by amniotic bands or adhesions.

Inglis also believes that these congenital abnormalities are due to local inferiority of tissue in various parts of the body resulting from influences transmitted in the germ plasm and determined by fundamental biologic laws of growth and development.

CASE A—BILATERAL NASOMAXILLARY CLEFT

Figure 1. Photograph of a seven-year-old girl (May, 1952). She had previously had bilateral cleft palate repair (elsewhere). Her intelligence quotient was within normal range. Notice the hypertelorism, the abnormal scar-like tissue uniting the upper and lower right eyelids, the deformed and misplaced right nasal ala, the short nasal dorsum and the raised eyebrows.

This deformity is due to the persistence of the naso-optic groove and its transformation into a cleft, either in whole or in part. The naso-optic groove separates the centrally placed frontonasal process from the laterally placed maxillary processes. This is without doubt a case of gross deformity, definitely shocking and repelling to others.

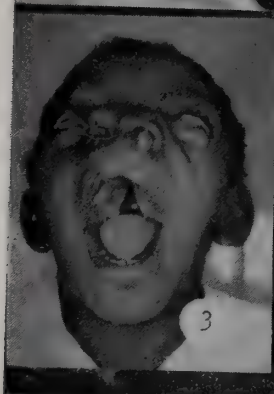
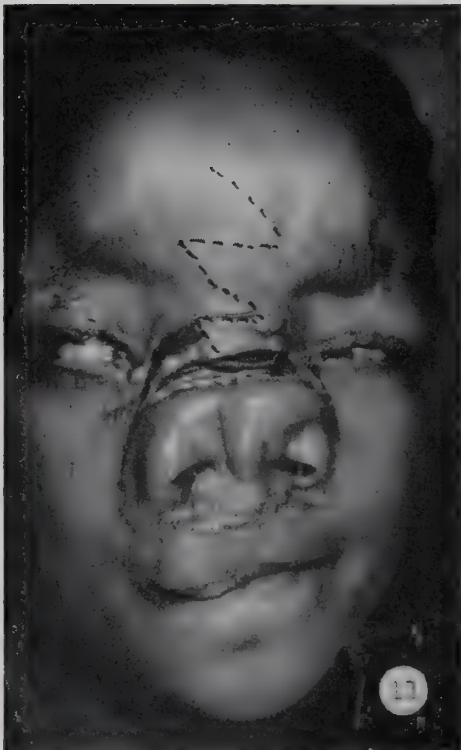


Figure 2. Post-operative photograph taken in May, 1955. Patient still needs further plastic surgical procedures, including bone or cartilage grafts to build up the nasal

modified Dieffenbach-Warren (the so-called Langenbeck) procedure.
Figure 4. Simple complete syndactyly on left toes.



dorsum. Although ugly, she is not now a monster.
Figure 3. Cleft palate and bifid nose are well seen in this view. The cleft palate was successfully repaired in accordance with a

Figure 5. Congenital constricting bands (annual grooves) on the base of great right toe with very mild form of partial ectrodactyly. Note missing toenail of great toe.
Figure 6. In this photograph, a Z-plasty

has been done in forehead to lower the right eyebrow, and another Z-plasty to correct the congenital scar on right upper eyelid. Similiar Z-plasties were done on the left side. Notice the proximity of right nasal ala to the medial canthus; compare with Fig. 2.

Figure 7. Fibrous dysplastic band (see Fig. 6) connecting right medial canthus with mid-portion of right upper eye has already been removed in this photograph. Three abnormally situated teeth were also extracted by an oral surgeon in this operation.

Figure 8. Outlining a Z-plasty type procedure which will be used to lower the right nasal ala. Notice severe deformity of upper lip and compare with Fig. 2 and 12.

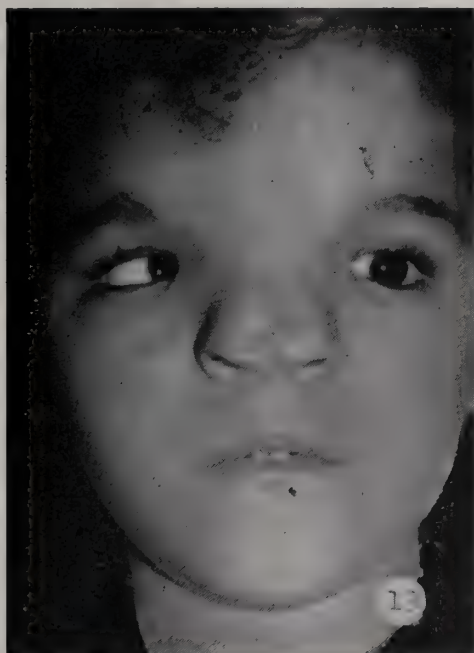
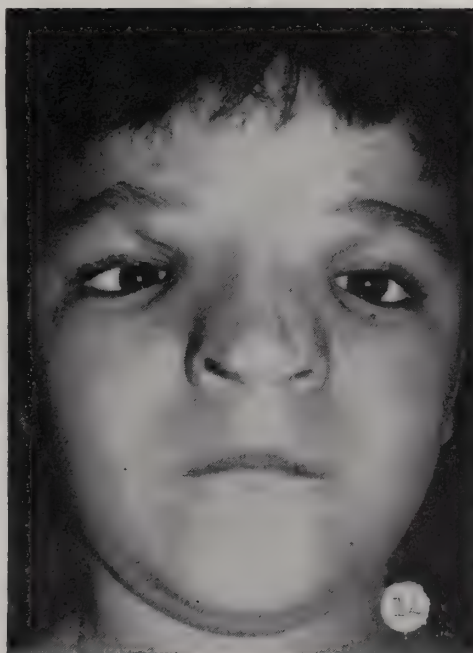


Figure 9. Flaps of previous Z-plasty have been transposed and a free full thickness skin graft from the right retro-auricular region added in order to further separate the right canthus from the right nostril (June, 1952). A fusiform-shaped section of tissue to be excised from under the right nasal ala is outlined in order to lower the right ala and raise the right side of the upper lip. Further

improvement of upper lip was obtained by excising the middle section marked out in the photograph.

Figure 10. Both nasal alae are roughly at the same level (Jan., 1953). Two Z-plasties are marked out, one in the lower part of the forehead and the other at the root of the nose in order to increase the amount of skin in the vertical direction at the expense of the horizontal direction and, thus, advance skin towards the nasal dorsum. A long, transverse incision is also outlined in order to lower the nasal tip; the raw area produced will be covered by a full-thickness post-auricular skin graft from the left side.

Figure 11. Flaps of previously described Z-plasties (Fig. 10) have been transposed



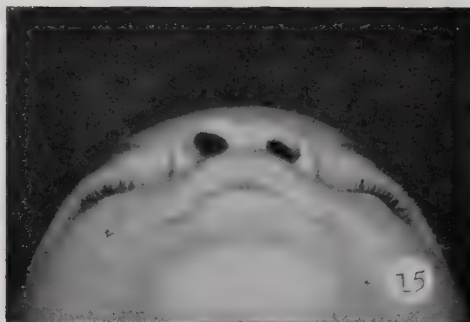
(Jan., 1954); free graft has taken successfully on the nasal dorsum.

Figure 12. Three more Z-plasties have been performed (Sept., 1954); one on each side of the forehead to lower the medial aspect of eyebrows and another on the root of the nose, similar to the one done in Fig. 11. The last photograph taken of this patient is in Fig. 2.

CASE B—HYPERTELORISM WITH BILATERAL EPICANTHUS AND BIFID NOSE IN A SIX-YEAR-OLD PATIENT

Figure 13. Pre-operative photograph of patient. Note outwardly splayed eyebrows.

Figure 14. Post-operative photograph of patient, two years later. Eyebrows have been advanced towards the midline by Z-plasties; epicanthus has been repaired by double Z-plasty procedure; bifid depressed tip corrected by a temporary tantalum plate prosthesis. This prosthesis will be replaced by



bone or cartilage autograph when patient's face has completely developed at a later date.

Figure 15. View of bifid depressed nasal tip. Note groove separating the anterior nares.

Figure 16. Tantalum plate before inserting through midline incision.

Figure 17. Flaps of Z-plasties on right eyebrow and eyelids have been transposed;

flaps of Z-plasties on the left eyebrow and eyelids are outlined prior to their incision and transfer.

Figure 18. Post-operative x-ray showing tantalum plate in place.

CASE C — ORAL-MANDIBULAR-AURICULAR SYNDROME (RIGHT SIDE)

Figures 19 and 20. Oral-mandibular-auricular syndrome on the right side. This syndrome was described by Stark and consists of macrostoma, hemignathia and auricular deformities (preauricular tabs). It is due to



faulty development of the first branchial (mandibular) arch. According to Keith, macrostoma is not due to faulty union of the adjacent free borders of the maxillary and mandibular processes, but to necrosis of the tissue within the fetal cheek which, during the course of normal development, advances the mouth away from the ear. The buccal grooves or creases then do not represent the

edges of an un-united embryological cleft, such as occurs in harelip.



Figures 21 and 22. Post-operative photograph. The edges of the cleft were incised, the muscle defined and the wound sutured

CASE D—ORAL-MANDIBULAR-AURICULAR-SYNDROME (LEFT SIDE)

Figure 23. Oral-mandibular-auricular syndrome on the left side.

Figures 24 and 25. Repaired by excising the free border of the defect and performing



two Z-plasties on the skin at the same operation. This gives a far superior result than with the technique used in the previous case. Pre-auricular tabs were also removed.

CASE E—GIGANTISM (MACRODACTYLY) OF THUMB AND INDEX FINGER

Figures 26 and 27. This is a congenital deformity that consists of the hypertrophy of a digit (thumb and index fingers are dig-

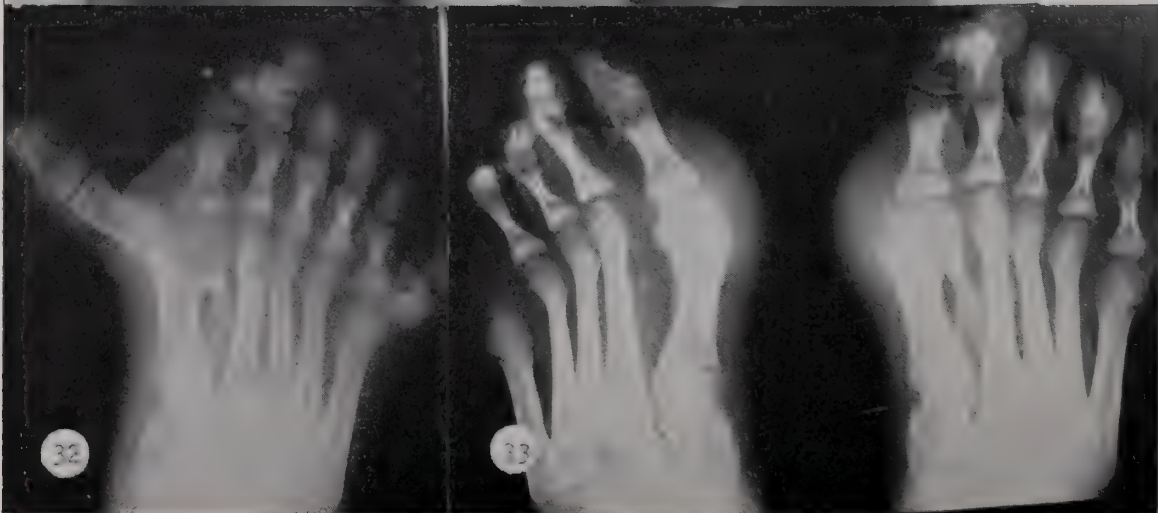


in three layers. Notice unesthetic anti-relaxed-skin-tension line scar running transversely over the cheek.

This scar could be improved with a W-plasty or by two consecutive Z-plasties.

its most frequently involved) most frequently in the male and rarely symmetrical or hereditary.

At age of 2½ years, the surgery resulting in the above post-operative condition (Fig.



27), was carried out. An attempt was made to do a free fingernail transplant, using a part of the nail with its matrix, which was removed when the distal phalanx of the right index finger was amputated. This was unsuccessful.

CASE F—BILATERAL SEVEN-DIGIT POLY-
DACTYLISM

Figures 28 and 29. In this particular case, it was due to entire duplication of the great and small toes.



Note also in the pre-operative photograph that there was marked hypertrophy of the thenar eminence, which was also reduced at surgery by excision.

An incidental finding was an anomaly of the ulnar volar digital nerve of the index finger, which ran diagonally around the finger.

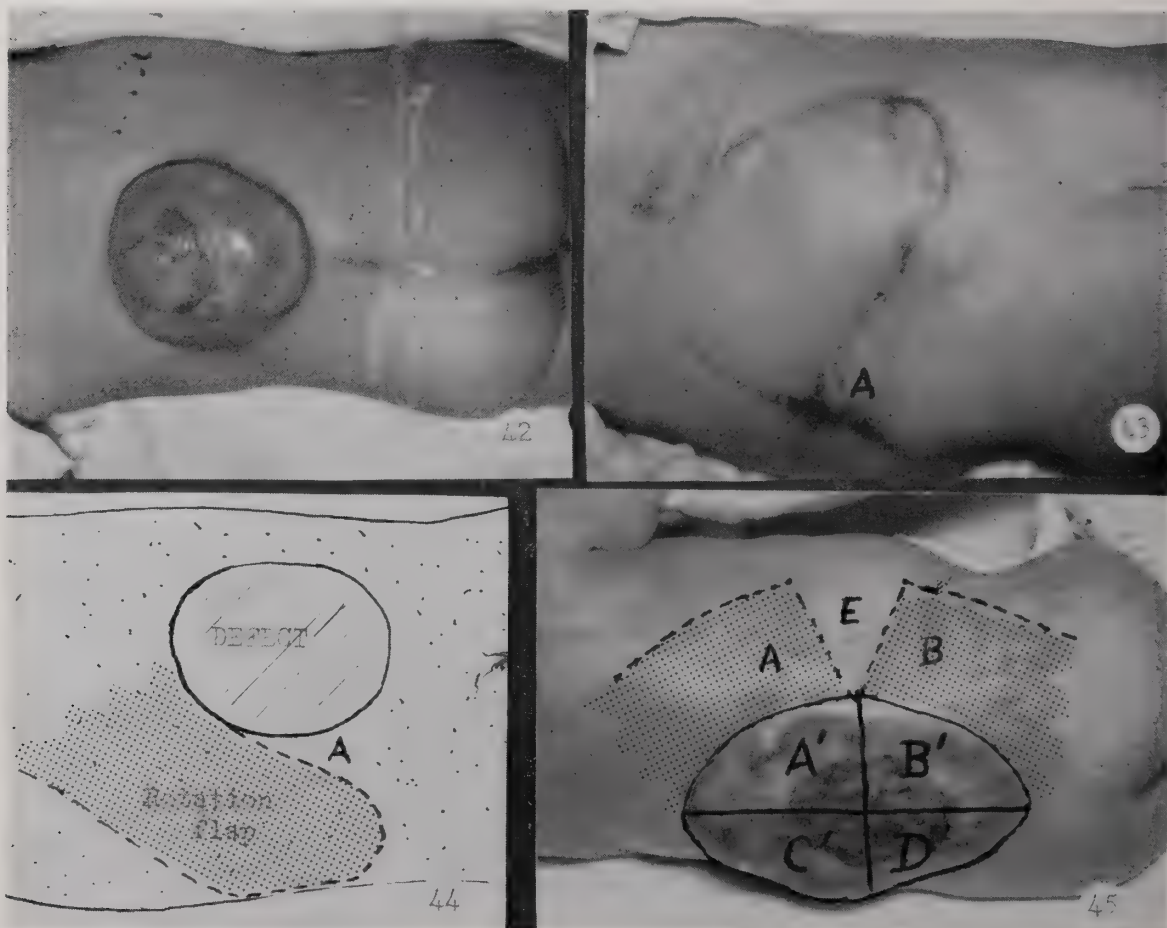
Figures 30 and 31. Post-operative photographs. On the right foot, both small toes had to be amputated because of mal-alignment of both digits.

Figures 32 and 33. Pre- and post-operative x-rays. Note that by error these x-rays were photographed on the reverse side.

CASE G — SIX-DIGIT POLYDACTYLISM OF HANDS AND FEET ON SAME PATIENT.

Figures 34 to 41. Six-digit polydactylysm of hands and feet on the same patient.

local rotation flaps of healthy skin and subcutaneous tissue down to the deep fascia. These flaps, when transposed and sutured, should lie without tension.



Treated by amputating the sixth supernumerary digit in each extremity.

CASE H—LARGE LUMBAR MYELOMENINGOCELE

Figure 42. Large lumbar myelomeningocele should advantageously be operated on by a neurosurgeon working together with a plastic surgeon. The former separates the skin from the cyst, keeping the arachnoid intact, inverts the sac and covers it with flaps of fascia which he reflects medially from each side. As much as possible of the healthy skin should be saved for closure but all thin and discolored skin around the neck of the sac should be excised. Then, the plastic surgeon closes completely the defect with

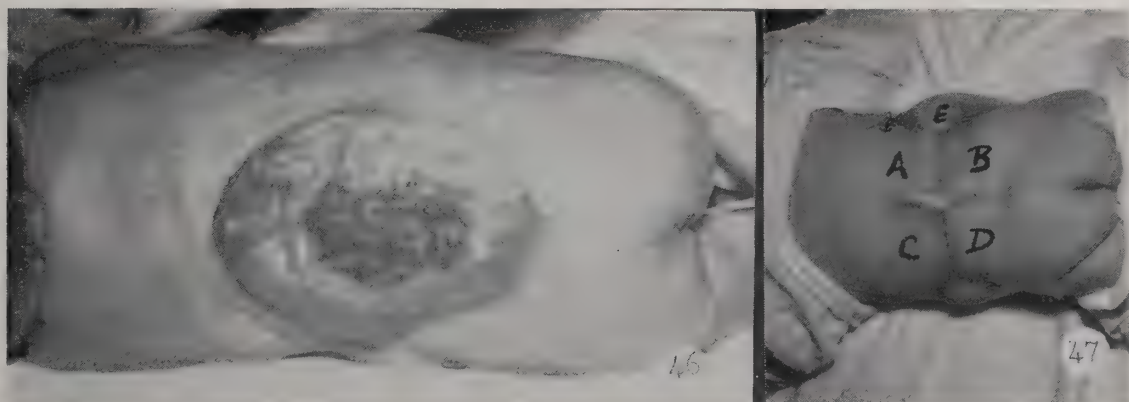
The sessile type of sac is always more difficult to close than the more common sac with a narrower neck.

Patterson states "In practice, we have found that, when the diameter of the neck of the sac is more than half the width of the back, watertight closure will not be possible by simple approximation."

Figure 44. The anomaly was excised and repaired by the neurosurgeon (Dr. M. Diaz Padron) and the defect covered by the plastic surgeon by means of a local rotation flap taken from the left flank of the patient, as can be seen outlined in this photograph (schematic).

Figure 43. Post-operative photograph of Case H. The skin, not the subcutaneous tis-

sue, of the distal tip of the flap sloughed and was repaired by means of a free skin graft taken from the back of the patient. Notice triangular flap "A" used to cover the donor area without having to resort to any free graft for this purpose.



CASE I—HUGE MYELOMENINGOCELE IN A NEWBORN INFANT

Figures 45, 46 and 47. (Dr. Ernesto Castro, neurosurgeon, performed the first part of the operation)

The defect was closed by means of four local pedicle flaps as can be seen schematically drawn in the photograph. Part of each of the four donor areas were left to heal by secondary intention because it was decided that the time involved in obtaining and suturing free skin grafts was not worth while the risk of prolonging the operation in this one-day-old infant.

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Caliber of Descending Duodenum and Upper Jejunum in the Presence of Peptic Ulcer of Stomach or Duodenal Bulb

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Dilatation of the descending duodenum and upper jejunum can be readily detected on gastro-intestinal x-ray series. This finding is closely correlated with peptic ulcer.

THE PURPOSE OF THIS PAPER is to emphasize the diagnostic value of the caliber of the descending duodenum and upper jejunum as an indirect sign of peptic disease in either the stomach or the duodenal bulb.

The subject of the big duodenum has been reviewed extensively elsewhere,³ and we shall limit ourselves to that enlargement "dependent upon influences mediated through the intact central and autonomic nervous system" associated with peptic ulcer. The causal relationship between the dilatation and the ulcer has been frequently muddled by invoking the presence of that elusive superior mesenteric axis syndrome as the cause of the dilatation, the peptic ulceration being secondary to the stasis.^{1,2} Such a hypothesis of vascular compression of the duodenum does not readily explain the transience of the dilatation, its presence in the jejunum, nor does it receive firm support at surgery. Simon's⁶ concept that the thickened wall of

the ulcer-bearing duodenum further encroaches upon the vascular "compass" with dilatation of the duodenum is equally difficult to accept.

Of 855 barium-meal examinations, Pater-son⁵ found an increase in caliber of the jejunum in 11 and of the duodenum in two, all associated with duodenal ulcer; one case of dilated duodenum was found with gastric ulcer.

The single, static anteroposterior study of the routine gastrointestinal series was used for the measurement to the nearest 5 mm. of the mid-descending duodenum. In this projection, the descending duodenum is most dependent, thus favoring puddling of the barium suspension within its lumen and a "natural" degree of dilatation from hydrostatic pressure. The datum of caliber was considered unobtainable from those anteroposterior studies presenting obvious duodenal peristalsis, incomplete filling, or obliteration by overlying gut.

Although we used the same anteroposterior study for measurement of the caliber of the jejunum, it was soon evident that the jejunum in this view was often poorly delineated and difficult to measure, and the postero-anterior or oblique view would have proved better suited because in these the jejunal loops are more dependent and are better distended with the barium suspension.

Our study was in two parts:

First, we reviewed 123 serial anteroposterior gastrointestinal studies which permitted accurate determination of the caliber of the mid-descending duodenum and a fair approximation of the caliber of the jejunum

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to determine the relationship between the caliber of these segments and the presence of peptic ulcer. Figure 1 shows the relationship of the duodenal caliber to the frequency of peptic ulcer. The left descending segment is indicated by a broken line because of its uncertain (but suspicious) significance: it is

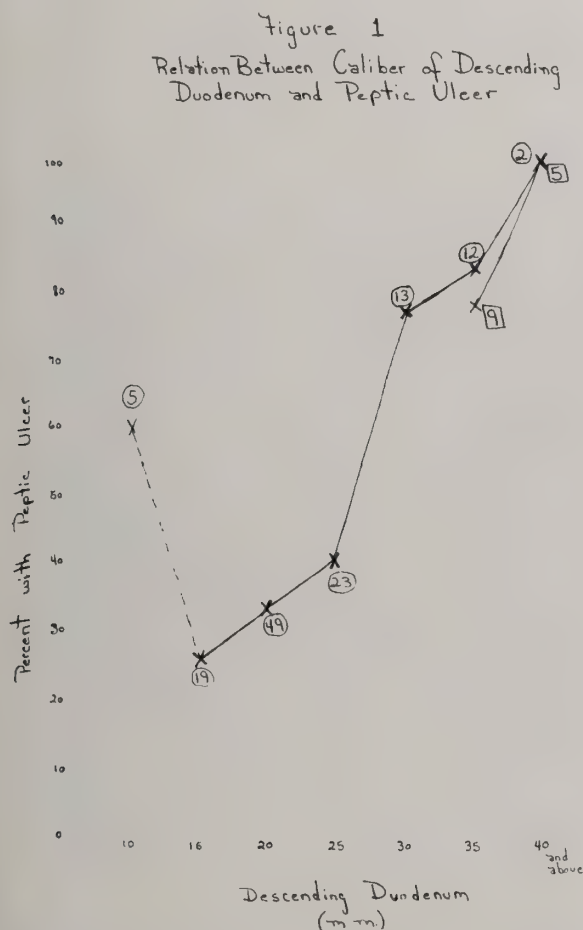


Fig. 1. The relationship between caliber of mid-descending duodenum and the frequency of peptic ulcer. Segment in broken line of doubtful (but suspicious) significance because of difficulty in differentiating spasm from incomplete filling. Numbers in circles comprise the 123 reviewed serial gastrointestinal series; numbers in squares comprise the 14 cases with dilated duodena (35 mm. and greater) culled from current material and the diagnostic file of megaduodenum.

difficult to be sure that a duodenal caliber of 10 mm. or less does not result merely from incomplete filling rather than from spasm.

Measurements of the jejunum were so indeterminate (because of the reasons already given), except in extreme cases, that the data are not presented in graphic form. It was found, however, that the diameter of most of the cases lay between 10 and 25

mm.; five of the 123 had a diameter of 30 mm. or more with an 80% frequency of ulcer.

In the second part of the study, we collected 14 cases with duodena 35 mm. or greater from both our current daily material (as opposed to the review material in the first part) and our diagnostic file of megaduodenum. Nine of these 14 had a diameter of 35 mm. with a frequency of ulcer of 78%, and five a diameter of 40 mm. or greater, with a frequency of ulcer of 100%. These frequencies almost coincide with those obtained from the initial review study of the 123 patients and are plotted in Figure 1.

Illustrative Cases

Case 1: P.S., 68-year-old white woman. She has had an ulcer history for eight years. Examination three years ago (Fig. 2A) revealed a marked duodenal deformity with no ulcer crater; descending duodenum measured 35 mm.; upper jejunum normal. Recently, she underwent gastric "freezing". Considerable pain and nausea with tarry stools were experienced after this procedure. Figure 2b is four weeks after freezing procedure: large gastric ulcer, deformed bulb, and descending duodenum about 50 mm.; also, dilatation of upper jejunum just beyond duodenojejunal flexure. A large perforated gastric ulcer adherent to the liver was found at operation.

Comment: This patient showed a dilated duodenum on both her gastrointestinal studies, and a dilated jejunum in addition on the second one after the development of the large gastric ulcer following the "freezing". The dilated duodenum at the time of the first examination could be regarded as an indirect sign of activity of the ulcer. Period of observation: three years, five months.

Case 2: L. H., 39-year-old colored male. Several episodes of pain and vomiting in the past were diagnosed clinically as peptic ulcer. Figure 3A: bulb deformed but crater not seen; duodenum 35 mm. Figure 3B: fourteen months later; bulb continues de-

formed; ulcer crater demonstrated (on other films); duodenum 40 mm.; upper jejunum 35 mm. The atony of these loops is illustrated by the sharp linear impression formed by the peritoneum of the left lateral wall. Figure 3C: fifteen months later; again, crater demonstrated in deformed bulb (on other films); duodenum 35 mm.; upper jejunal loops still dilated, and their atonicity is now demonstrated by the ease of impression of neighboring loops of gut. This patient has continued to refuse surgery.

was deformed with atypical rugal pattern. The much more striking finding was the markedly dilated loops of upper small intestine; the duodenum did not share in the dilatation, but might have been somewhat spastic (Fig. 4B). The possibility of mechanical obstruction was entertained but the patient would not consent to laparotomy. She was put on medical treatment for possible active ulcer, her pain presently subsided and she began having bowel movements. Six days later (Fig. 4C) the patient was essen-

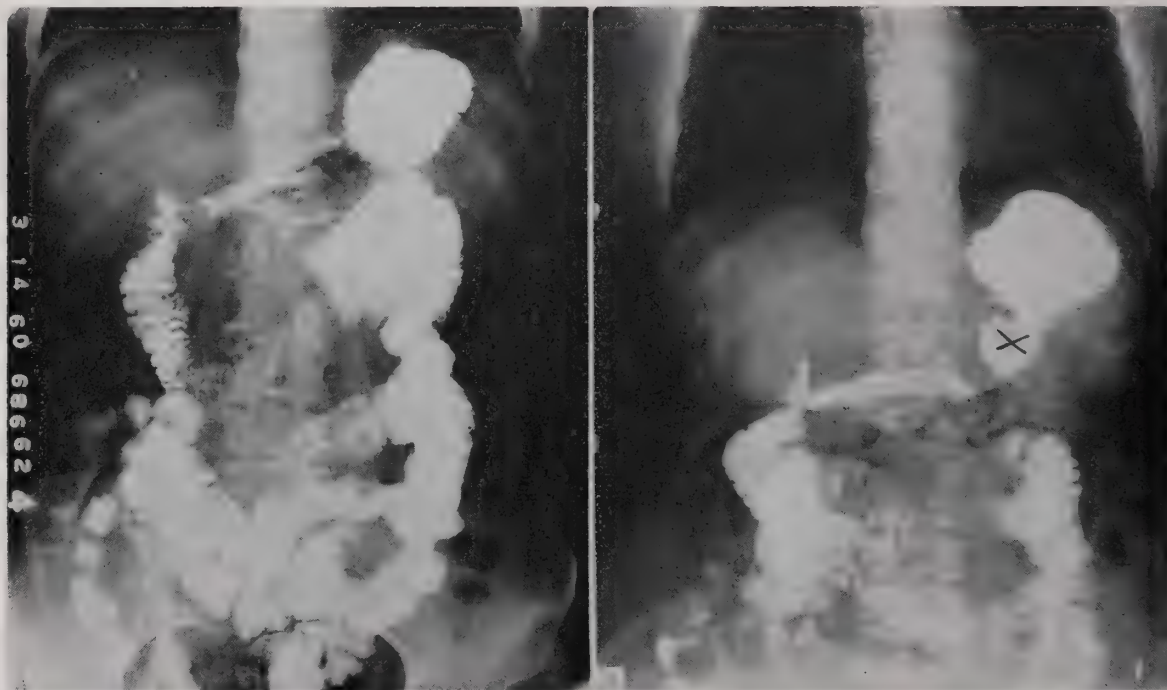


Fig. 2. Case 1, P.S. See text.

Comment: The dilatation of the duodenum persisted on all three examinations, and the upper jejunum was dilated on the last two with atonicity as shown by extrinsic deformity from neighboring structures. Period of observation: two years, six months.

Case 3: H.K., 62-year-old white woman. For several weeks before admission the patient had been complaining of vague indigestion with upper epigastric pain. The night before admission she experienced a sudden onset of severe abdominal cramps with nausea and vomiting. A mechanical obstruction of the small intestine was suspected clinically. Figure 4A: the duodenal bulb

tially free of symptoms; the abnormal bulb persisted, but the upper small intestine was now normal in caliber; some stretching was confined to a small segment of mid-jejunum. Four weeks later (Fig. 4D) the patient was free of symptoms, but still on Sippy treatment. The bulb continued to present deformity with atypical systole fluoroscopically, but the small intestine was normal.

Comment: Despite the lack of operative proof, the organic and functional aberrations of this duodenal bulb and the excellent response to treatment justify the diagnosis of active bulbar ulcer. The behavior of the jejunum is regarded as an unusual response

to the peptic ulcer. Note that the duodenum was never dilated, and indeed, might have been regarded as spastic on the initial examination. Period of observation: three months.

Case 4: F.M., 16-year-old white male. Admitted to the hospital with a two-week

history of vomiting but no pains. The first physician who saw the patient diagnosed "emotional upset". On admission, the abdomen was tightly distended but had a "solid feel". A barium enema was done; the large intestine was normal but a greatly distended

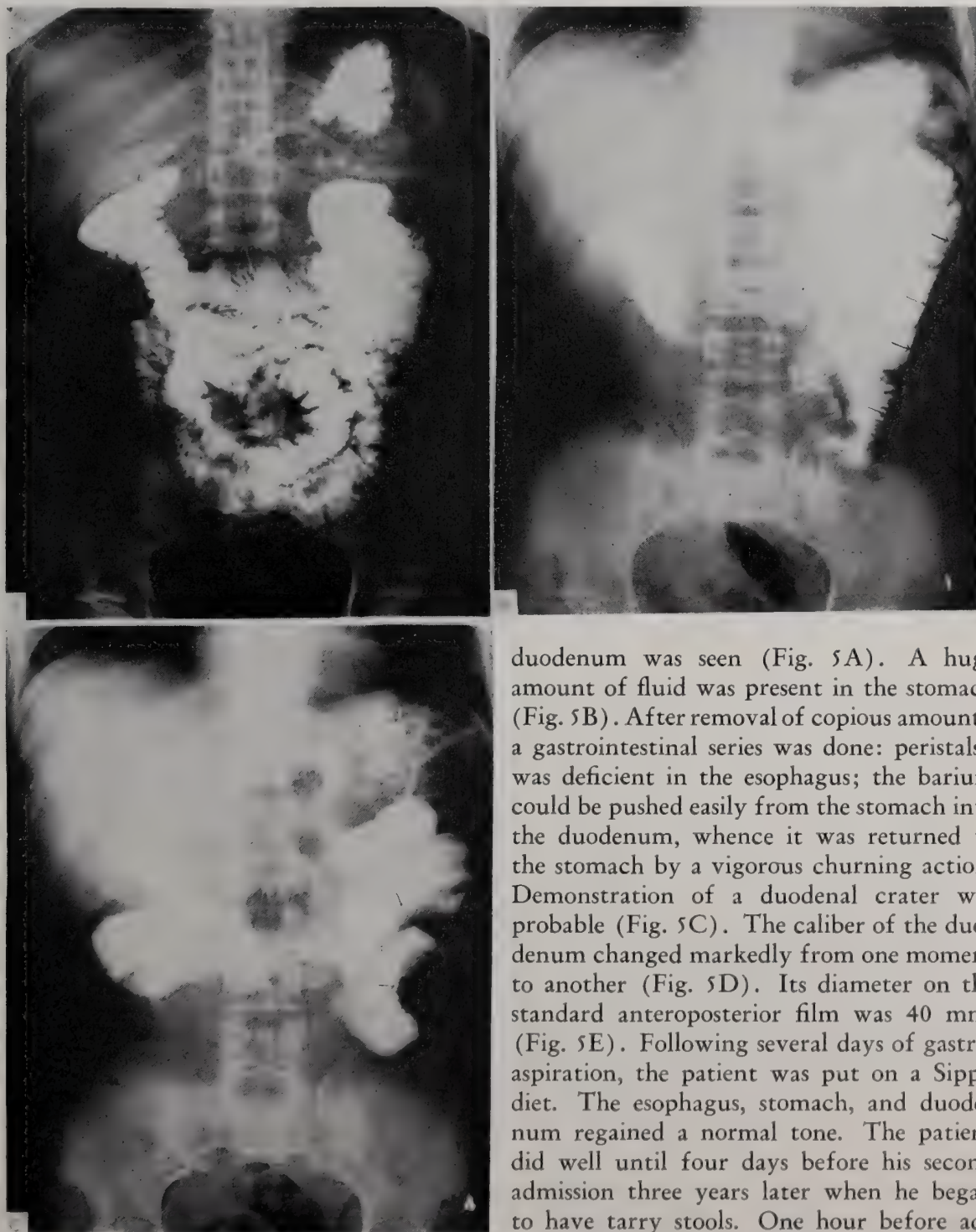


Fig. 3. Case 2, L.H. See text.

duodenum was seen (Fig. 5A). A huge amount of fluid was present in the stomach (Fig. 5B). After removal of copious amounts, a gastrointestinal series was done: peristalsis was deficient in the esophagus; the barium could be pushed easily from the stomach into the duodenum, whence it was returned to the stomach by a vigorous churning action. Demonstration of a duodenal crater was probable (Fig. 5C). The caliber of the duodenum changed markedly from one moment to another (Fig. 5D). Its diameter on the standard anteroposterior film was 40 mm. (Fig. 5E). Following several days of gastric aspiration, the patient was put on a Sippy diet. The esophagus, stomach, and duodenum regained a normal tone. The patient did well until four days before his second admission three years later when he began to have tarry stools. One hour before admission, he complained of severe pain in the

upper abdomen. His abdomen was rigid. A perforated duodenal ulcer was found on laparotomy. A subtotal gastrectomy was

months later for a marginal ulcer and bleeding. The pancreas was normal at operation, making ulcerogenic tumor unlikely.

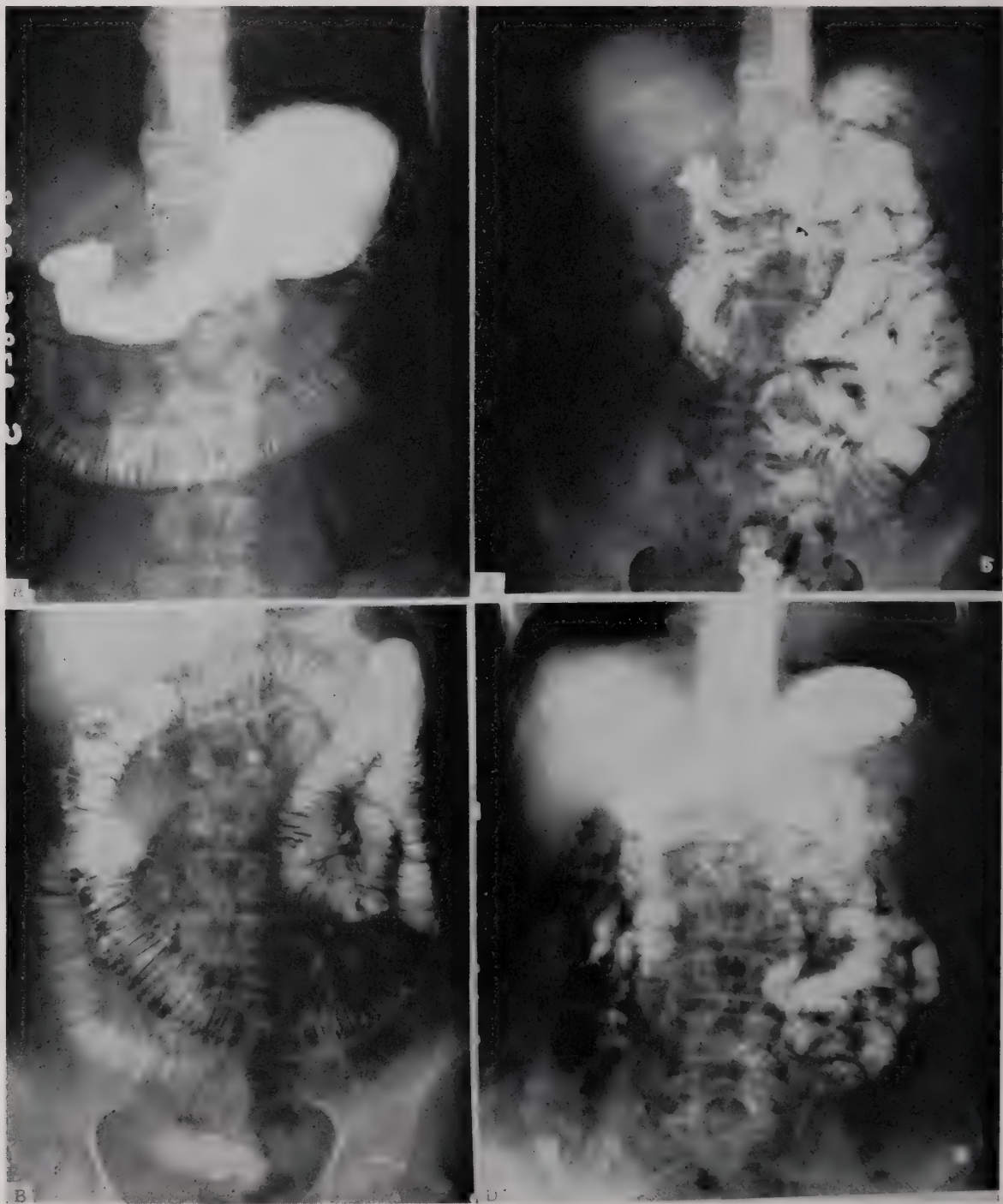


Fig. 4. Case 3, H.K. See text.

necessary 13 months later for recurrence of symptoms, following demonstration of a bulbar crater (Fig. 5F). A vagotomy with further gastric resection was required three

Comment: This clinical picture was initially dominated by distention from an accumulation of a huge amount of fluid in the stomach and duodenum. The clinical picture

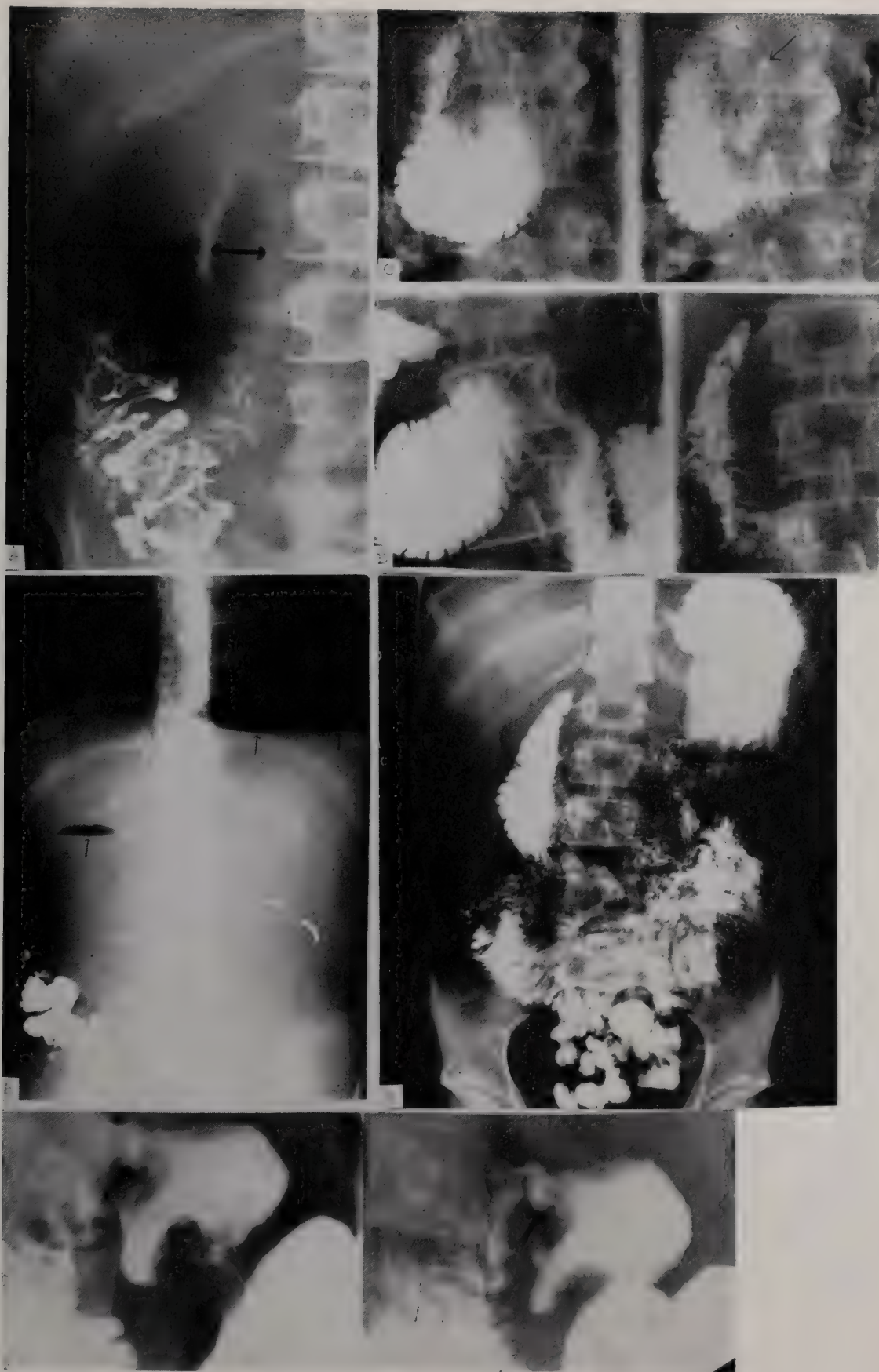


Fig. 5. Case 4, F.M. See text.

could have easily passed for the superior mesenteric axis syndrome. To this examiner, this patient radiated a definite schizoid aura. Period of observation: five years.

seasonal flareups and tarry stools. The day before admission she began having severe epigastric cramps with nausea and persisting vomiting. She was upset over the drafting

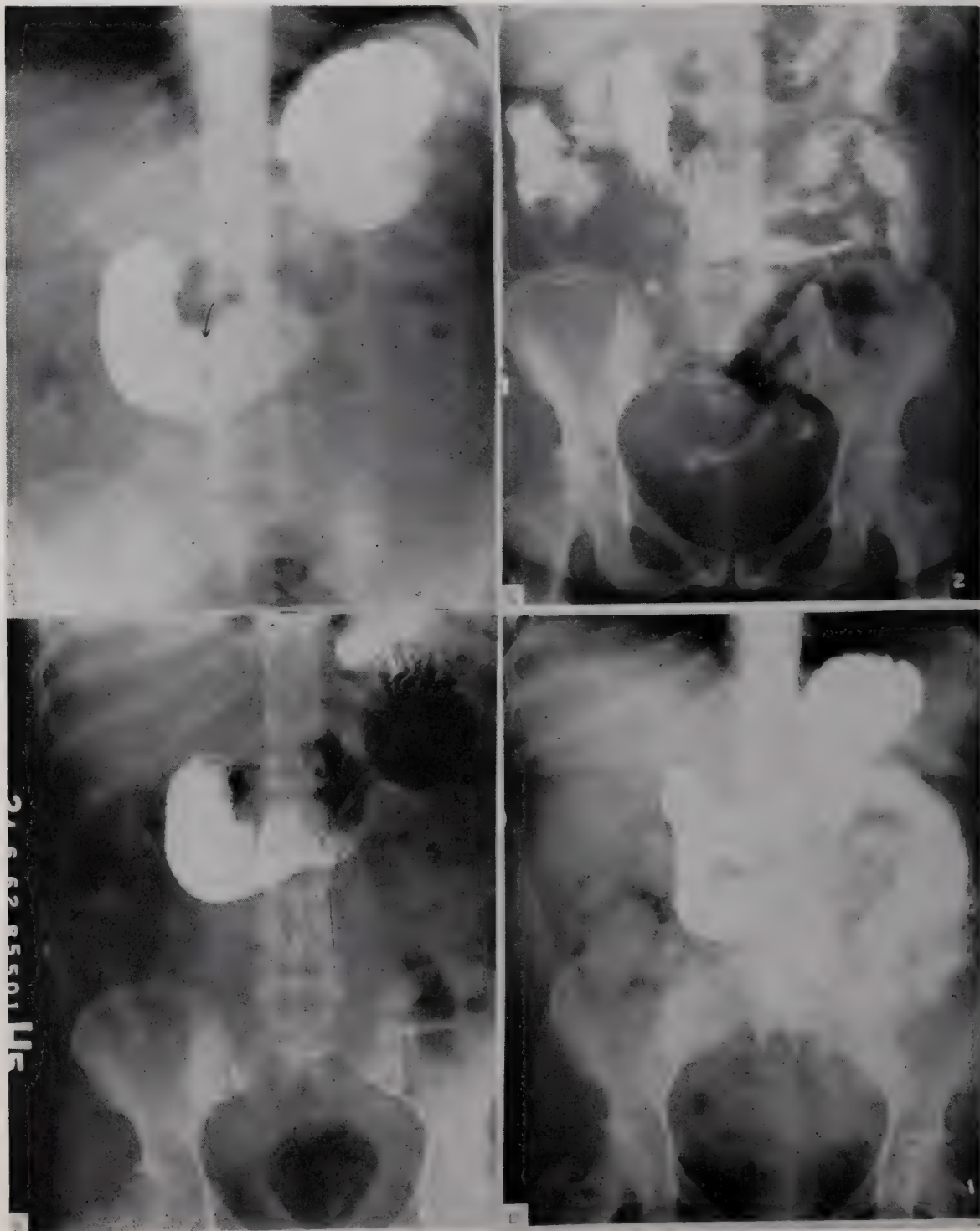


Fig. 6. Case 5, A.J. See text.

Case 5: A.J., 45-year-old colored woman. She had had "ulcer trouble" with numerous

of her son into military service and his eventual transfer abroad. Figure 6A shows a

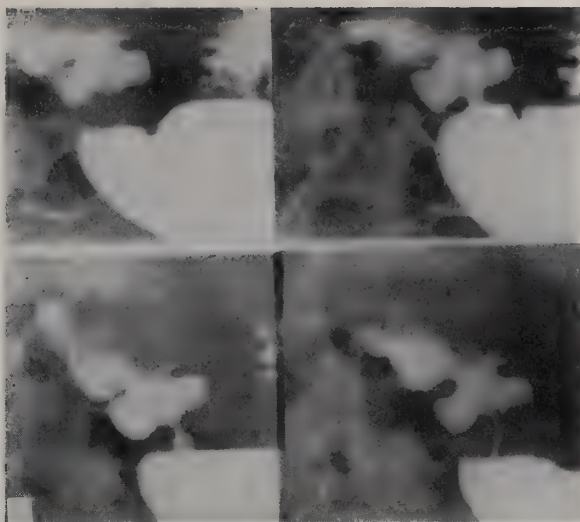
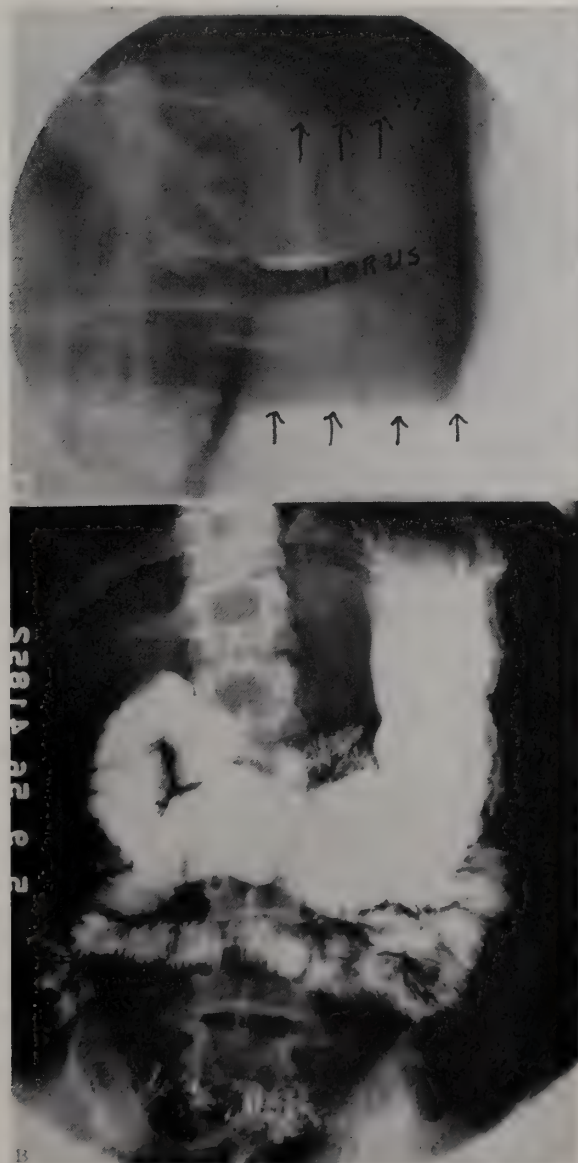
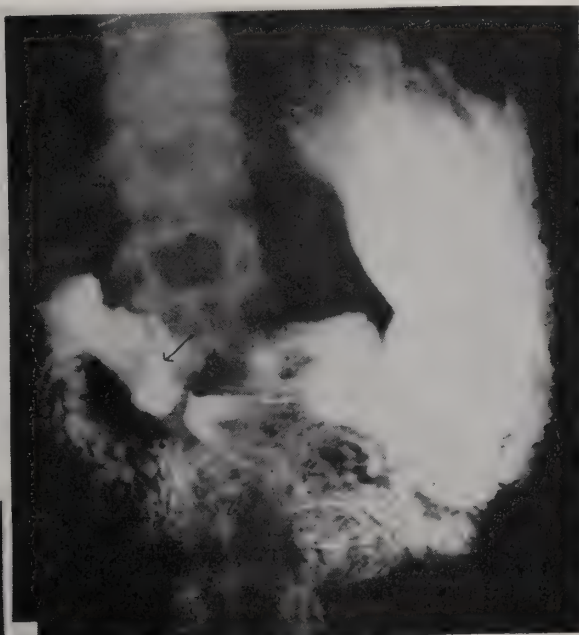


Fig. 6E



hugely dilated atonic duodenum, with a crease as further evidence of its atonicity. Five hours later no significant change (Fig. 6B). Twenty-four hours later, some barium has passed into the small intestine, but a puddle still remains in the still dilated duodenum (Fig. 6C). A noticeable clinical improvement especially in the distention followed as soon as she received word that her son was coming home because of her illness. The clinical ulcer picture, however, became more definite. A week later (Fig. 6D) the duodenum was of normal caliber, but the jejunum continued somewhat di-



lated. The duodenum bulb was unquestionably deformed (Fig. 6E).

Comment: This patient, as the last one, could have easily been taken to represent the superior mesenteric axis syndrome. Both these patients had prominent psychogenic colorings. Period of observation: Lost sight of after discharge from hospital.

Case 6: V.G., 34-year-old white woman. She experienced a sudden attack of severe upper abdominal pain radiating to the back, nausea and vomiting, and headache, awakening her from sleep. A past history of migraine was prominent. The clinical diagnosis

Fig. 7. Case 6, V.G. See text.

was acute pancreatitis. Fifteen months later she had a similar attack, headache again prominent; the gastrointestinal and gallbladder series at that time were considered normal. Seven months later, another sudden attack of upper abdominal pain, nausea, vomiting, diarrhea and headache. The gastrointestinal series this time showed excessive fluid in the stomach which could be displaced easily into an atonic duodenum (Fig. 7A); the caliber of the duodenum was 40 mm. and the bulb was slightly deformed (Fig. 7B). X-ray impression: "These findings are consistent with a reflex from disease in surrounding organs such as pancreas, or with ulcer or gastritis." Shortly thereafter she went to another hospital where a duodenojejunostomy was done for the superior mesenteric axis syndrome. She did well for three years, and then had another attack similar to all the previous ones. The gastrointestinal series this time (Fig. 7C) showed a definitely abnormal bulb with a radiating mucosal pattern but normal duodenal caliber; the duodenojejunostomy was no longer functioning. Because of persistence of symptoms despite medical treatment, a subtotal gastrectomy was done 13 months later. Since that time (three years ago), the patient has done well despite occasional digestive upsets.

Comment: Peptic ulcer again underlay this duodenal enlargement. The latter was so prominent at operation that the surgeon's attention must have been directed away from the bulb to the possibility of duodenal obstruction, hence the duodenojejunostomy. Migraine, which played a prominent part in this patient's clinical picture, has been present in some of the cases reported as examples of the superior mesenteric axis syndrome. Period of observation: nine years, two months.

Case 7: L.K., 37-year-old white female. She had been complaining of epigastric pain for two years with nausea and vomiting and no relief from food. Several gastrointestinal studies had been normal, but finally a spastic

deformity in the distal half of the bulb was found that relaxed from moment to moment; the rest of the duodenum was normal especially for dilatation; the roentgenologic impression was active duodenal ulcer. At surgery, a tremendous dilatation of the duodenum was encountered; the diagnosis of superior mesenteric axis syndrome was made and a duodenojejunostomy was done. The patient was relieved for about six months thereafter, when the pain and vomiting recurred. She was operated upon again three years later because of the persisting clinical and roentgenologic picture suggesting peptic bulbar ulceration; nothing was found again except a massive dilatation of the duodenum; a partial gastric resection was done; microscopic sections disclosed a chronic antritis, and a focal hypertrophy of the muscularis of the pylorus.⁴ She has been moderately free of gastrointestinal symptoms for the last six years, although occasional bouts of indigestion have been disturbing.

Comment: This is an example of a dilated duodenum encountered twice at the operating table, despite its complete absence on the pre-operative roentgenograms, in a patient with gastritis. Period of observation: 10 years.

Discussion, Summary and Conclusions

1. The caliber of the mid-descending duodenum may be measured in many gastrointestinal series from the anteroposterior study. Estimation by eye of normal or abnormal is not adequate. In our review study of 123 routine serial gastrointestinal series where determination of the caliber of the mid-descending duodenum was possible, and in studies from 14 other patients with duodena 35 mm. and greater culled from our current material and diagnostic file of megaduodenum, we found that as the caliber exceeded 20 mm. the frequency of ulcer increased; beyond 35 mm. the frequency approached 100 percent.

2. Contrary to the scarcity of reports, the frequency of the dilated jejunum with

ulcer, although less than that of the dilated duodenum, is considerable. One of our patients with probable peptic disease presented a dilated jejunum but normal (if not contracted) duodenal caliber. The frequency of dilated jejuna (as well as duodena) with peptic disease will increase, the more often a ruler is used to evaluate them.

3. The purely mechanical superior mesenteric axis syndrome should not be invoked to explain the association of the dilated duodenum with peptic ulcer because of the transience of the dilatation (it may appear and disappear from moment to moment), of the not infrequent extension of the dilatation to the upper jejunum, and the lack of flawless substantiation of a mechanical genesis at the time of surgery. A neural-mediated genesis, a reflex ileus, is a more satisfactory explanation.

4. The patient with the dilated duodenum (especially the greatly dilated one) may present with a very atypical ulcer picture dominated by gastrointestinal paresis. Pain may be atypical. The past history may disclose a heavy psychogenic coloring or migraine. These latter have also been repeatedly catalogued in the recorded cases of the superior mesenteric axis syndrome, which, we believe, has been grossly over-reported.

5. It behooves the surgeon to examine with the utmost diligence for peptic disease

or gastritis in the presence of a dilated duodenum before he lights upon the diagnosis of superior mesenteric axis syndrome and does a duodenojejunostomy. This procedure had been done on two of the patients we have studied with substantial relief in neither; one was later found to have a bulbar ulcer and obtained relief only after gastrectomy; the other was later found to have a chronic antritis, and she too obtained relief only after gastrectomy.

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MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Implementing the 1963 Federal Legislation on Mental Retardation

Public Laws 88-164 and 88-156, passed by the Congress in 1963, comprise the first Federal legislation in the field of mental retardation. They are the result of a study by the President's Panel on Mental Retardation and carry out the Panel's recommendation that the problem be attacked in four ways: preventive service, care and treatment, research, and community planning.

PL 88-164 provides for the construction of research centers and facilities for the mentally retarded as well as community mental health centers. Inasmuch as the framework for similar Federal-local financing of hospital construction (Hill-Burton) is already set up, Governor Harrison has designated the State Board of Health to carry out the provisions of this act through the Virginia Advisory Hospital Council. Accordingly, legislation passed by the recent General Assembly amended the hospital construction law to include those funds available under PL 88-164 and to add two members to the Advisory Hospital Council. The Governor has appointed Mrs. Merritt W. Matthews of Arlington and Dr. Walter E. Bundy, Jr., of Richmond as the new members of the Council. Mrs. Matthews and Dr. Bundy were members of the VALC Committee on Services Provided for Mentally Retarded Persons and are well qualified in this field.

PL 88-156 amends the Social Security Act (which is the source of Children's Bureau funds) to authorize the following:

1. An increase in grants to the states for maternal and child health services.
2. An increase in grants to the states for crippled children's services.

3. A new 5-year program of grants, up to 75% of cost, for special projects in maternity and infant care.
4. A new program of grants, contracts, or cooperative arrangements for research relating to maternal and child health services and crippled children's services.
5. A onetime appropriation, up to 75% of the cost, for grants to the states for planning comprehensive programs of prevention, treatment, and amelioration of mental retardation.

In Virginia the Children's Bureau funds come to the State Health Department and, therefore, this agency will be responsible for carrying out the first four provisions above. Governor Harrison has designated that the planning provision (Item 5 above) be carried out by the State Department of Mental Hygiene and Hospitals under the aegis of the Inter-Agency Committee, which is composed of representatives of the State Departments of Health, Mental Hygiene, Education, and Welfare. This phase of the program also will be tied in with the Mental Health Study Commission, which had been appointed by the Governor prior to the passage of the Federal legislation.

How will the increased funds be used by the State Health Department?

It is well known that mental retardation is more prevalent in population groups having inadequate maternity care. It is also known that the rate of prematurity is higher in this same group and that the rate of mental retardation is higher in prematures. Patients with a history of central nervous system disorders, allergy, diabetes, hypertension, and thyroid disease constitute the high risk group for mental retardation. Another

high risk group, often overlooked, is that of too many, or too closely spaced, pregnancies, which tend to increase the rate of prematurity. Preventive services, therefore, are of utmost importance and should include family planning. Prenatal, postnatal, and early childhood care should be designed to give the child a healthy start in life.

The increase in MCH funds will be used initially in Virginia in three ways: (1) greater emphasis on prenatal and postnatal clinics in the local health departments, with new clinics to be established in some areas and consultation available in obstetrics and pediatrics; (2) gradual expansion of the MCH hospitalization program for complicated pregnancies and premature and sick infants to include the seven independent city health departments which, because of lack of funds, have never been included in the program; and (3) expansion of the PKU testing program, as described in the September issue of this journal.

Preventive measures must be augmented by care and treatment. Here it is important that we broaden the term, "crippling," so that services for the mentally retarded child may be provided on the same basis as those for any other handicap. Health services for children with multiple handicaps must be interrelated to enable the child to be evaluated as a whole, with all factors taken into consideration in planning for his management and treatment.

As a first step in using the increase in Crippled Children's funds, the Consultation and Evaluation Clinics have been transferred administratively to the Bureau of Crippled Children's Services. C&E clinics are now operative at the MCV in Richmond and at the health departments of Arlington, Roanoke, Norfolk, and Fairfax. Diagnostic evaluation of the mentally retarded child is a time-consuming process and in spite of all efforts, the waiting lists at the clinics are still long. These services must be broadened and put on a truly state-wide basis. Therefore, a new clinic is being opened in Bristol, and others are planned for the Danville and

Charlottesville areas as additional funds become available.

The C&E clinic at the Medical College of Virginia is being moved to larger quarters and plans are under way for enlargement of the basic staff and services available. In addition, a chromosome laboratory is being developed, with an initial research project in the genetics of the mongoloid children of young mothers under 35 years of age. Later, research will be conducted on speech and hearing difficulties, biochemical disorders, etc. After the first two years, the chromosome laboratory will move out of pure research into the service area of genetic counseling.

The new CC funds will be used to provide more adequate services for the child with multiple handicaps, including mental retardation. These services will provide for diagnosis, evaluation, treatment, and coordinated management of the patient and will be conducted in close cooperation with the State medical centers, Special Education Services of the State Department of Education, and the State Department of Welfare.

Crippled Children's funds will also supply orthopedic appliances for physically handicapped mentally retarded children in the State Training Schools in Lynchburg and Petersburg. This will be done in cooperation with the State Department of Mental Hygiene and Hospitals.

Under the item of grants for special projects, plans are progressing for special maternity and infant care programs for the high risk groups in the larger cities where the infant mortality and prematurity rates are increasing yearly. Also, it is hoped that special postgraduate courses may be conducted, in cooperation with the Virginia Academy of General Practice, to develop interest and knowledge in mental retardation among the general practitioners who work in the local health department clinics. A special project grant already received will enable the Health Department to offer special training in mental retardation to graduate nurses working in health departments

or official or non-official health agencies, instructors in nursing in accredited schools of nursing, and head nurses in charge of pediatric units in hospitals in Virginia.

Grants for research relating to MCH and CC services could be designed to evaluate these programs with emphasis on ways of strengthening their management and effectiveness. Other projects might be developed in cooperation with schools of medicine and public health to study critical issues of maternal and infant mortality, prematurity, and other maternity problems. At the present time the State Health Department has no immediate plans for utilizing these grants.

During the 1964-1966 biennium the State Health Department will receive approximately \$1,200,000 in Federal funds for these services, exclusive of amounts for the construction of mental health facilities. The details of the State-Federal matching process are too intricate to be described here, but sufficient moneys were appropriated by the 1964 General Assembly to enable the Health

Department to match and receive all new Federal funds.

The 1963 Federal legislation in mental retardation is allowing the State Health Department to round out its program of services to mothers and children, with emphasis on prevention of both mental and physical disabilities. Your interest and support are earnestly solicited.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Aug. 1964	Aug. 1963	Jan.- Aug. 1964	Jan.- Aug. 1963
Brucellosis	2	2	14	5
Diphtheria	—	—	—	—
Hepatitis	41	53	390	617
Measles	75	97	13137	7991
Meningococcal Infections	3	—	46	68
Meningitis (Aseptic)	1	4	9	21
Poliomyelitis	—	—	—	1
Rabies (in Animals)	27	10	230	146
Rocky Mt. Spotted Fever	11	13	31	33
Streptococcal Infections	628	349	7778	6738
Tularemia	—	—	4	6
Typhoid Fever	—	2	11	7

After San Francisco, What?

This country is going to have a clear choice this November. There will be conservatism of Barry Goldwater versus the political wizardry of Lyndon Johnson.

Not since the 1920's has this nation had such a clear delineation of purpose and not since Harding's days has the Republican party been able to present a true alternative to the spend and elect policies which have dominated our political life. It is going to be a rough campaign, and we, in the Medical profession, must not shirk our duties. We must become active in the party of our choice, and we must work actively for the candidate of our party, Republican or Democrat.

We must learn that only hard work and hard cash will bring victory. We must learn that only if we have participated actively in political life, both local and national, can we truly say that we are full citizens of this country.

—The Medical Bulletin of Northern Virginia

Current Currents

AMA PRESIDENT: Dr. Donovan F. Ward, Dubuque, Iowa, has assumed the presidency of the American Medical Association following the untimely death of Dr. Norman A. Welch. Dr. Ward, a 60-year-old surgeon, was named President-Elect at the 1964 annual meeting of the AMA House of Delegates when it met last June at San Francisco. He will serve as President until June, 1965, and the House of Delegates will choose a President-Elect to succeed him when it meets at Miami Beach from November 29-December 2.

NATIONAL EDUCATION: The American Medical Association has announced a national education program to inform the public on the broad range of health care now available to the elderly who cannot pay for it. The nation's physicians and their medical societies will be asked to lead in the effort by person-to-person explanations to their patients of the existing programs through which care is assured to all older citizens who need health care but cannot afford it.

In an effort to make sure this information reaches as many as possible, AMA will use paid advertising, in cooperation with state and local medical societies.

Dr. F. J. L. Blasingame, Executive Vice-President of the AMA, said: "This is an educational program. It is not intended to influence Congressional action on pending legislation, since the program is not scheduled to begin until October. By then Congress will have disposed of Medicare legislation and adjourned.

"The Medicare tax proposal is mentioned in our program only for the purpose of showing that such proposals are unnecessary because of the generous benefits of the existing Kerr-Mills law and other state and local health care programs.

"The medical profession has been seriously concerned by the results of public opinion studies showing that the majority of those interviewed did not know that every state has programs to help those who need help in paying for medical care. Our concern was deepened by testimony before committees of Congress which disclosed explicitly that certain federal agencies and their employees, instead of disseminating helpful and constructive information to the public about legislation passed to help the needy and near-needy elderly in meeting illness costs, have made public statements and written articles in which the Congressional act was ridiculed, maligned and described in false generalities.

"We believe the public has a right to know all the facts about the Kerr-Mills law, passed by Congress in 1960, and other state and local programs for providing care for those elderly who need help in meeting medical expenses.

"Because of its historic responsibility for disseminating health care information to all citizens, young and old, the American Medical Association feels it has a duty to make sure all elderly people are aware of existing programs, and thus be encouraged to seek medical attention when they need it.

"After a careful study, the Association has concluded that as a public service it should make every effort to reach as many people as possible with the facts on health care programs for helping the elderly who need help through a national educational program."

COMMUNICATIONS: Attention is called to the following recommendations adopted by the AMA House of Delegates during its meeting in San Francisco. They are: (1) That county and state medical societies redouble their communications efforts and that expressions of support be issued whenever and wherever unjust attacks are made on the American Medical Association; (2) That physicians and staffs of state and county medical societies become acquainted with members of the communications media in their areas, provide them with factual information concerning the medical profession and its programs, and call to the attention of editors and station managers any misstatements of fact concerning the AMA or its activities, and that if facts are not available locally to reply to accusations or errors in articles or commentaries, the medical society contact the AMA for the information needed.

TEAM PHYSICIANS: With the football season now in full swing, local societies are urged to take an active interest in every high school and junior high school athletic team in their areas—making certain there will be a team physician available during contests. It is important to the health and welfare of the team participants that the treatment of injuries not be left to non-medical professionals.

HEALTH INSURANCE: The Health Insurance Council has announced that over 145 million persons, 77% of the U. S. civilian population, had some form of voluntary health insurance to help them pay for hospital and medical expenses in 1963. Insurance company policies, or other formal arrangements, help protect nearly 47 million wage earners—more than two-thirds of the employed labor force—against loss of wages and other earned income stemming from disability.

The public continued to broaden the base of its health insurance protection in 1963. For example, of the 145 million persons with coverage for hospital expenses, nearly 135 million, or 93%, also had surgical expense protection; over 102 million, or 70%, were protected against regular medical expense and at least 42 million, or 29%, were also covered for major medical expense. Ten years earlier, by comparison, 83% of those with hospital expense insurance had surgical expense coverage; 44% had regular medical expense protection; and 1.3% were insured against major medical expense.

C. A. WHARTON, JR.

Comprehensive Mental Health Planning in Virginia—II

A recently received invitation to attend and participate in the AMA Second National Congress on Mental Illness and Health to be conducted in Chicago in November prompted the question among the staff of the Virginia Mental Health Study Commission as to whether the members of the medical profession in Virginia had been kept informed of the progress of Comprehensive Mental Health Planning in the Commonwealth. This, particularly in view of the theme of the Congress, which will be "Community Mental Health Services and Resources—Mobilization and Orientation".

A review of the files disclosed an article in the Virginia Medical Monthly in January of this year outlining the planning structure for the Study Commission and stating the objectives of the group.¹ It emphasized that the Commission's report must be based upon what the individual localities consider necessary; what they consider desirable; and what they are willing and able to do to achieve these measures.

At that time the eighty member Study Commission had been formed and an Executive Committee consisting of fifteen of these members had been appointed. In the period between January and September 1964, considerable progress has been made in implementing Virginia's Plan for Planning under the direction of the Commission. This article will review the Program to date and outline its future direction.

Many physicians are directly involved in the planning as members of the Commission and the various Regional Planning Groups.

WHARTON, C. A., JR., *Coordinator, State Mental Health Study Commission.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

It is expected that many others will be involved in their capacity as citizens of their respective communities and as sources of professional information as the Study continues at the local level.

Any planning process, in the simplest terms, consists of four major and necessary steps:

1. To know or determine what currently exists in relation to the planning objective.
2. To evaluate and/or compare present resources in relation to needs.
3. To develop an agreed list of needs and a practical priority list based thereon.
4. To determine the methods whereby the needs can be obtained.

The Commission, in keeping with the overall concept of the Virginia approach to the planning, is carrying out these four steps utilizing to the fullest extent a citizen approach. From mid-March through June, it conducted a series of ten regional public meetings throughout the State. One of these meetings was held in each of the Congressional Districts which constitute the arbitrary division of responsibilities decided upon for the conduct of the Study.

These meetings have served a dual purpose: (1) To elicit community level expressions of current resources, facilities, problems and needs in the field of mental health; and (2) To increase public awareness of the problems and the need for community support in their solutions.

The meetings served their purpose well. In none was there any dearth of discussion. Speakers from all segments of the population and, by and large, from all areas of the individual districts had their say. Those who entered the discussions included public officials, professionals in mental health and allied

fields, representatives of interested organizations and groups and ordinary individuals. The records of the meetings demonstrate that all areas do not have the same problems in the same degree. Also, expressed needs vary among the districts. However, in all the meetings, a common concern was expressed for the major and well-known problems of personnel, coordination and communication, the need for stimulating public awareness in mental health, and the need for resolving problems attendant upon the financing of existing or desired programs.

It must be appreciated that at these meetings the information gained was "raw" data. Some attendees spoke with authority, some from a reasoned approach to the known needs and some spoke from emotional and personal involvement, with feeling but, perhaps without solid foundation for their suggestions and recommendations in practical terms.

Hence, the next (and current) phase of the Virginia Study. The ideas, statements and recommendations arising from the regional meetings, along with extensive general information and statistical data gathered by the staff of the Commission are now being referred to Regional Study Groups in each of the Ten Districts. These Groups have been formed based upon recommendations made by the Executive Committee members for the individual regions, in consultation with other resident members of the Commission. They are composed of volunteer workers drawn from all segments of community life, and, as feasible, from all areas of the regions. The groups range in size from 15 to 45 members. It is expected that all ten Regional Study Groups will have commenced their area studies by the time this article appears in print.

The function of the individual study groups is to conduct a study in depth in their designated areas, to validate and supplement as necessary the information available from the regional meetings and other sources, and to provide to the full Com-

mission a comprehensive area report which will be utilized, with additional state-wide information, in the preparation of a recommended Comprehensive Mental Health Plan for Virginia for the period 1965-1975.

It is during this stage of the study that cooperation and assistance from the people of the communities and counties involved will be of major importance and significance. In assessing resources, delineating problems and reaching practical solutions, the groups must consider not only those which are specifically involved in the care and treatment of the mentally ill, but also the network of services which are related directly to other fields but contribute materially to the mental health of the community. They must collect information relative to state institutions, local and private hospitals, aftercare programs, rehabilitation services, counseling programs, trained personnel, the role played by schools, public and private welfare agencies, health departments, churches, courts and related agencies.

They must seek advice and assistance from, among others, public officials, general practitioners and other members of the medical profession, ministers, teachers, judges, police, social workers, and the several private agencies involved in programs related to the mental health of the community.

The primary thrust of the deliberations of the study groups will be directed to a community approach including preventive programs, early diagnosis and treatment, outpatient care, part-time or short term hospital care, community programs for aftercare and rehabilitation, and consideration of special problems including delinquency, aging, alcoholism and those facets of mental retardation which bear directly on the emotional problems of the retarded and their facilities.

Out of the considerations of the Regional Study Groups will come for each of their areas the following:

1. A comprehensive and practical plan

for a more complete range of community mental health services.

2. Plans for the coordination of patient care to insure continuity of treatment.
3. Recommendations concerning legislation and/or administrative changes considered necessary to implement suggested plans.
4. Recommendations relative to methods of financing and manning new or expanded community mental health services.
5. Recommendations for a continuing program for increasing the public awareness of the problems of mental health leading to increased public acceptance of its responsibilities in this field.

Regional reports will be submitted to the Commission in October. They will be consolidated and form the basis for the Commission's report to the State Mental Health Authority. Depending upon the contents of the regional reports, it is expected that the Commission recommendations for a comprehensive long-range plan will concern itself with an overall plan for the State as a whole, but will take into account the diverse needs of particular areas.

The comprehensive plan as submitted by the Commission will be subject to review, coordination and approval at the State Department level and will then be submitted to the Governor for adoption as the State Plan for Virginia.

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1. Comprehensive Mental Health Planning in Virginia, Edward B. White, Jr., Virginia Medical Monthly, 91: pp. 33-34, January 1964.

Allergic to Plain Water

Some persons are allergic to simple contact with water, according to two University of Pennsylvania researchers. For years a distinctive form of hives marked by intense itching has been seen in certain individuals as a result of heat, emotion or exertion, Drs. Walter B. Shelley, a dermatologist, and Howard M. Rawnsley, a pathologist, Philadelphia, wrote in the September 21st Journal of the American Medical Association.

The common denominator in the development of these cases is "surface contact with sweat or even pure water."

Extensive studies of three patients with typical cases showed that hives occurred after any contact with water or sweat in

sensitive areas of the body. These areas generally were those rich in oil glands which usually open into hair follicles.

Interestingly, stress or pain did not initiate hives. This is understandable, because neither stress nor pain produced much perspiration. When exercise caused the patient to perspire, hives resulted.

The mechanism whereby water on the surface of the skin precipitates hives and itching is not clear. However, they theorized that some toxic substance is formed by water acting on the oil gland or the oil secreted by the gland which leads to a release of histamine.

Attacks can be prevented by taking antihistamines or coating the skin with oil.

Fibrinolysis

The tremendous increase in the literature on the subject of fibrinolysis during the past few years has resulted in (i) elucidation of some aspects of this blood protease system (ii) revelation of its complex nature and (iii) confusion of many a clinician faced with the problem of explaining a diagnostically elusive hemorrhagic phenomenon or faced with the decision whether or not to employ fibrinolytic therapy in certain thrombotic conditions.

Although the mechanism of physiological regulation of the fibrinolytic system in vivo is still unknown, the "normal" state of this system in the plasma indicates the presence of small amounts of plasminogen (pro-fibrinolysin) activator but not free plasmin

ministration. A striking feature is the lack of specificity of plasma which is capable of hydrolyzing fibrin, fibrinogen, Factor V (accelerator globulin), Factor VIII (anti-hemophilic globulin), ACTH, growth hormone, glucagon, some components of complement, casein, gelatin, a number of synthetic arginine and lysine esters, etc. In addition to the circulatory system, a number of organs and body tissues have been shown to contain significant concentrations of "tissue activator", with highest concentrations being found in the prostate, adrenal glands, lymph nodes, thyroid gland, lung, ovary and in endometrial tissue during the stage of endometrial hyperplasia.

Schematically, the fibrinolytic system shown below summarizes many observations

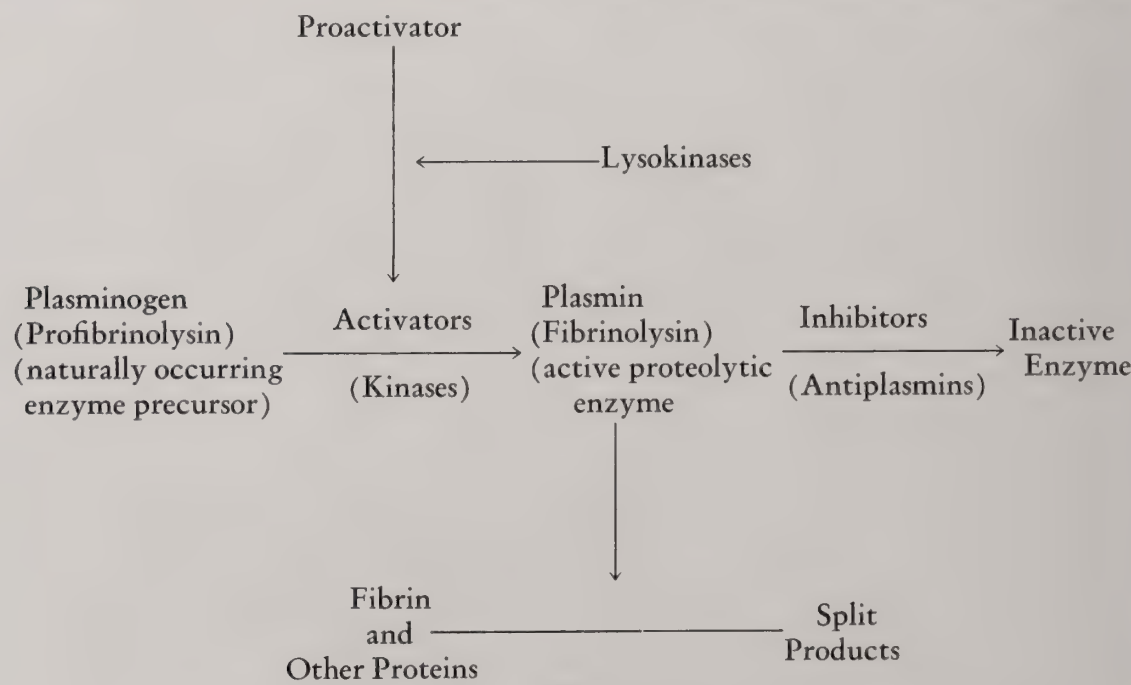


Fig. 1

—From Sherry, S., Fletcher, A. P. and Alkjaersig, N., *Phys. Reviews* 39: 343: 1959.

(fibrinolysin). Enhanced fibrinolytic activity in vivo has been shown to occur with emotional stress, following severe exercise, adrenaline injection, anoxia, electroshock therapy, intravenous injections of acetylcholine, local anoxia and nicotinic acid ad-

derived from studies performed in vivo and in vitro.

More recently evidence has been reported that plasminogen in plasma and plasminogen adsorbed onto a fibrin clot each causes different effects after its activation. When plas-

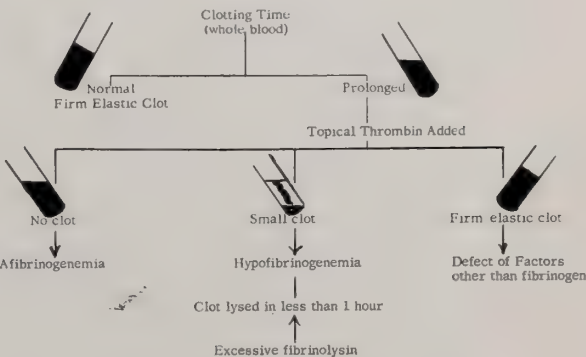
minogen is activated slowly in its "soluble phase" in the plasma, the antiplasmins inhibit the active plasmin. In the "gel phase" the activated plasminogen adsorbed to the clot proceeds with the subsequent clot lysis relatively free from the antiplasmins. Rapid activation of plasminogen in the soluble phase, beyond the capacity of antiplasmin activity, may result in hypofibrinogenemia or, rarely, afibrinogenemia as well as a reduction in the plasma levels of Factors V and VIII. The hemorrhagic diathesis which occurs is most often of acute onset and is frequently a post-operative complication of lung or prostatic surgery (also possible in surgery involving other organs rich in "tissue activator") or such obstetrical complications as abruptio placenta or retained dead fetus. The clinical syndrome of whole blood fibrinolysis has been known to complicate carcinomatosis (especially of prostate) and liver cirrhosis. Another important cause is an iatrogenic form due to the administration of fibrinolysin (e.g. Thrombolylin^(R), Actase^(R) or fibrinolysin activators (e.g. Streptokinase) in the management of thrombotic disorders.

Another theoretically valid mechanism in the development of hypofibrinogenemia, involves the possible release of both plasminogen activator and thromboplastic material from injured tissue with resulting defibrination by the latter followed by secondary fibrinolysis.

Clinically, the possibility of pathological

fibrinolytic activity must be considered in the differential diagnosis of bleeding in a patient, especially when associated with those surgical and obstetrical complications which seem significant predisposing conditions. Where the index of suspicion is high, excessive fibrinolytic activity may be diagnosed by the screening procedure recommended below. One striking clinical

SCREENING TESTS PERFORMED ON A BLEEDING PATIENT



feature in excessive fibrinolytic activity is the markedly friable clot lacking normal elasticity and rubbery texture. The defect appears to be due to interference with the normal polymerization of fibrin by a large molecular fragment derived from fibrinogen or fibrin degradation.

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The Seven Days by Clifford Dowdey

THE Virginia Medical Monthly as a rule does not carry reviews of books of a non-medical nature. An exception has been made in the case of *The Seven Days* by Clifford Dowdey which was published by Little, Brown and Company, Boston, and appeared in the early summer. This exception was made because of the considerable amount of medical data the author has included in this thought-provoking book that deals with General R. E. Lee's first battle as Commander of the Army of Northern Virginia.

The first 127 pages give the background of the military and political web in which Generals George B. McClellan and Lee found themselves enmeshed on the morning of June 26, 1862, as they faced each other on the banks of the sluggish Chickahominy a few miles northeast of Richmond. The remaining 232 pages deal with the series of battles fought during the ensuing week from Mechanicsville in Hanover County through Henrico County to McClellan's final haven at Harrison's Landing in Charles City. Admirers of President Lincoln will find little in which to take pride in the cat and mouse attitude he adopted toward McClellan. This behaviour, it appears, stemmed from an almost pathological fear by Lincoln that the City of Washington would be left unprotected.

General Lee, on the other hand, had his problems too. Without warning he was placed in command of a hastily assembled, unorganized army with its back to the wall as a result of General Joseph E. Johnston's ineptitude in permitting his forces to fall back almost to the city limits before giving battle at Seven Pines. The only benefit that accrued to the South from this inconclusive and mismanaged fight was the wounding of Johnston which permitted him to be reassigned to duties better suited to his talents while command of the Confederate Army passed to General Lee.

The Seven Days Battle is described graphically and each day's fighting is made easy to follow by a series of excellent maps. The short sketches of the chief participants are enlightening and frequently explain quirks of behavior that otherwise might prove puzzling. A question that has never been answered to the satisfaction of Civil War students was the failure of Stonewall Jackson to live up to the high standard he set a few weeks before when his well-nigh faultless Valley Campaign captured the attention of the world. Generals A. P. Hill, Longstreet and D. H. Hill bore the brunt of the fighting and far outshone their more famous col-

league who appeared to drag his feet throughout the entire Seven Days Battle.

The explanation most generally accepted in recent years has been that his lethargy resulted from complete physical exhaustion due to lack of sleep. Jackson himself attributed his debility to the "malarial region" in Tidewater Virginia in which he was forced to fight after his prolonged stay in the invigorating Valley of Virginia. Dowdey went further in analyzing Jackson's ailment by drawing upon the experience of physicians who served in World War II and Korea. He concludes that Jackson suffered from "stress-exhaustion" as the result of two months of constant physical and mental strain while he conducted the Valley Campaign.

In addition to being a hypochondriac, Jackson was frail and required more than the usual amount of sleep and rest. He was aware of his limitations and usually adjusted his activities to his physical resources. According to Dowdey he first showed mental aberration during the early stages of the march of his army eastward to join Lee at Richmond. Dowdey's theory is that Jackson's ill-advised ride on June 23 and 24 was a manifestation of his confused thinking, which, no doubt, in turn aggravated his subsequent behavior but was not the primary cause of his difficulties. He went without sleep or food on two successive nights while he rode from Frederick's Hall to Richmond for a conference with Lee, and then returned to rejoin his forces at Beaver Dam Depot. The army meanwhile had fallen nearly twenty-four hours behind schedule during this interval and he made no effort to make up this lost time. His absence during the first day's fighting resulted in heavy losses by A. P. Hill's unsupported troops who were carrying out their pre-arranged assignments. This situation continued throughout the entire Seven Days. These unexplained errors of omission were completely at variance with Jackson's usual behavior. Dowdey's "stress-fatigue" theory appears to be the most logical explanation for this strange and disappointing interlude in Jackson's otherwise brilliant military career.

This seven-day period of testing and trial of men who were fighting together for the first time under a new commander brought out psychological responses that, for the most part, passed unrecognized at the time. Dowdey's interpretations are thought-provoking and doubtless accurate in several instances. The understandable influences that motivated General Magruder's actions and his subsequent fall from grace are sympathetically portrayed. In retrospect he appears to have been the victim of a lack of understanding on the part of General Lee. Perhaps if Lee had not been so preoccupied by his own problems, he would have shown the same fore-

bearance with Magruder that he did with Jackson, and "Gentleman Jim" would have had an opportunity to redeem himself and possibly he ultimately would have become a corps commander in the Army of Northern Virginia.

The Seven Days presents in definitive fashion the happenings of June 26 through July 2 in the fateful year of 1862. It should be read by everyone who would know more about General Lee's first battle. It especially should be read by physicians who might learn how health, mental as well as physical, has influenced the history of the world. This is another example of the sound, well-documented book that we have learned to expect from Dowdey. This Richmond author has set a standard of scholarship that is all too often overlooked in the avalanche of hastily written and superficial books that have marred the observation of the Centennial of the War Between the States. It is the hope of this reviewer that his writings will receive the recognition they deserve.

Presidential Postscript

THE JUNE ISSUE of the Virginia Medical Monthly carried an editorial captioned "Slow Down Mr. President". President Lyndon B. Johnson was urged, because of his severe myocardial infarction nine years ago, to lead a less strenuous life. It is the custom of the Virginia Medical Monthly to send a marked copy of the magazine to any non-subscriber who is mentioned in the journal. In keeping with this policy a copy of the June issue was forwarded to President Johnson. The recipient, in turn, usually acknowledges these items, and especially does he do so if he also happens to be a candidate for elective office.

Thus far we have not been favored by a reply. Perhaps the journal did not reach his office or, more likely, the message was not one our president wished to receive. This reminds us that the statement was made frequently after President Kennedy's assassination that we all shared the blame for his death. The writer found this a little hard to accept; but be that as it may, his conscience is now crystal clear with regard to our present chief executive. Come what may, the errors of his way of life have been pointed out, he has been told and he is now on his own.

HARRY J. WARTHEN, M.D.

New Members.

The following doctors were received into membership in The Medical Society of Virginia during the month of August:

Marta Camilo, M.D., Richmond
Roland Gravatt Garrett, Jr., M.D., Newport News
Francis Gaetano Gentile, M.D., Annandale
Georg Karl Seitz, M.D., Manassas

Richmond Academy of Medicine.

Dr. William R. Hill has been named president-elect of the Academy to fill the vacancy caused by the death of Dr. M. Morris Pinckney. Dr. Hill will assume the presidency in 1965.

Virginia Diabetes Association.

At the spring meeting of this Association, Dr. L. Benjamin Sheppard, Richmond, was named president; Dr. H. St. George Tucker, Richmond, vice-president; and secretary-treasurer, Dr. Bernard H. Miller, Norfolk.

Dr. Ira L. Hancock,

Creeds, has been named vice chairman of the State Hospital Board. He will serve until June of 1966. Dr. Hancock has been a member of the Board since 1956.

Dr. Ward Honored.

Woodman of the World Camp of Hampton has honored Dr. O. W. Ward, Sr., as an outstanding citizen. Dr. Ward is eighty-two years of age and began the practice of medicine in Phoebus in 1911.

Dr. Isabel Taliaferro,

Richmond, announces the reestablishment of her office for the practice of Internal

Medicine with special interest in diabetes and endocrine diseases. Having been recently on the staff of McGuire Veterans Hospital, she is again at the Medical College of Virginia with offices in the hospital building.

Dr. Green Retires.

Dr. William T. Green, Jr., Nassawadox, retired from active practice as of September 1st. He has been a Shore physician for many years and was one of the first doctors to be associated with the Northampton-Accomack Memorial Hospital and is a past president of its medical staff.

Dr. Leta J. White

Formerly of Petersburg, now practicing in Gaffney, South Carolina, left in August for a trip around the world. She is attending international medical conferences and visiting Southern Baptist Mission hospitals and clinics. Dr. White will attend the International Congress on Mental Retardation in Copenhagen and the Afro-Asian Pediatric Conference in Indonesia.

Dr. Jack L. Ulmer,

Richmond, was the official American Medical Association representative to the meeting of the Austrian Society for Surgery and Traumatology held in Innsbruck, Austria, September 11-13.

Superintendent of DeJarnette Sanatorium.

Dr. David B. Lyon has been appointed superintendent of the DeJarnette Sanatorium in Staunton. He has been clinical services director at Western State Hospital for the past two years. He is replacing Dr. Robert Hyde who has returned to Eastern State Hospital in Petersburg to complete his residency in psychiatry.

Residency in Psychiatry.

Vacancy open in dynamically-oriented three-year approved program closely affiliated with the University of Kentucky Medical School. Includes comprehensive instruction and supervised hospital and outpatient experience with children, adolescents and adults. Stipend \$4205 to \$11,725 per annum. United States citizenship required. Contact Chief of Staff, VA Hospital, Lexington, Kentucky. (Adv.)

Medical Building,

Buckingham Community, available. Two suites—one for doctor and one for dentist. Located in community of 10,000 with immediate surrounding area of 20,000 more. This is a wonderful opportunity. Call Jackson 2-5000, Mr. Kettell, 313 North Glebe Road, Arlington, Virginia. (Adv.)

G. P. Partner

Wanted to join two other general practitioners doing rural practice in Southwest Virginia. Hospital privileges in three hospitals and medical directors for a new nursing home. An opportunity to do a family practice in a beautiful community with a stable economy and with an income greater than the national average. Write #15, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (Adv.)

G. P. Associate

Wanted. Thirty-seven year old, white, well established general practitioner wants young general practitioner as associate in City of Virginia. No obstetrics. Salary the first year, during trial period. New, large, modern office, Write #10, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (Adv.)

Needed.

General physician—family internist by four-man group in growing rural practice in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000 to \$18,000 depending on qualifications. Write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (Adv.)

Internist Needed

For well established Virginia group. Interesting financial arrangements. Salary first year, later partnership. Excellent facilities, excellent opportunities. Write #30, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (Adv.)

Obituary

Dr. Chichester Tapscott Peirce,

Prominent physician of Nuttsville, died September 6th at the age of eighty-six. He was a graduate of the Medical College of Virginia in 1899 and had practiced in Nuttsville for more than half a century. In 1949 when Dr. Peirce celebrated his 50th year of practice, he was honored by about

1,000 persons at a testimonial. He was a former member of the Lancaster County School Board, a charter member of the Northern Neck Historical Society and the Northern Neck Medical Association. Dr. Peirce had been a member of The Medical Society of Virginia for sixty-two years.

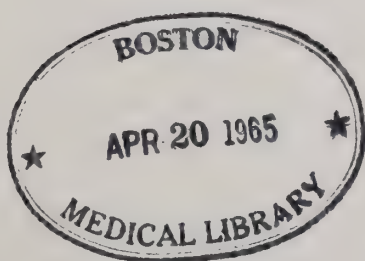
His wife and a daughter survive him.

The Virginia MEDICAL MONTHLY

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Guest Editorial



The Birth of Blue Cross

THE LATE DR. THOMAS W. M. LONG of Roanoke Rapids, North Carolina, in the twenties established an industrial medical check-off system for the employees and families of the local Patterson and Rosemary Mills, which provided medical service to them, and also paid their hospital bills.

Dr. Watson S. Rankin, Director of the Duke Endowment, and I visited Dr. Long in 1927 and felt that if a prepaid medical and hospital program could work for mills in a single county, it might be successful for the State, and possibly for the nation, so Mr. G. Watts Hill, the leading banker of Durham, Dr. Rankin and I, started the Durham Hospital Association on March 14, 1929. Because of the depression, it did not get off the ground until August 5, 1933, and was then called the Hospital Care Association, with the sponsorship of the Duke and Watts Hospitals.

Some, but not all, of the physicians felt that this Association might lead to socialized medicine, so The Duke Endowment on April 30, 1935, gave the late Dr. Isaac H. Manning, then President of the Medical Society of the State of North Carolina, and the late Graham L. Davis, Assistant Director of The Duke Endowment, \$25,000 to experiment with hospital prepayments, and they formed the Hospital Saving Association with the cooperation of the Medical Society of the State of North Carolina.

Later both associations joined with similar associations to form the National Blue Cross Commission. The Hospital Care Association is the first state-wide organization in the United States open to the general public which is still in operation. Had it not been delayed by the depres-

sion, it would have been the first, instead of the fourth, oldest Blue Cross plan.

The Hospital Care Association and the Hospital Saving Association are so competitive that they have stimulated each other into doing a better job than either one would have done alone. As a result, 70% of all of the people in North Carolina have some form of prepayment for hospitalization, and 90% of the bills are paid by the two Associations or by commercial companies. Public funds and contributions provide the balance, so that, despite its high cost, hospital care is available to everyone.

These two North Carolina Associations have paid over twenty-five million dollars in benefits since their organization.

Someone should erect a monument to Dr. Long because he really is the father of prepaid hospital care. The order of sequence in the birth of Blue Cross is that Dr. Long conceived the baby; G. Watts Hill, Dr. W. S. Rankin and I delivered it; and Dwight Snyder, F. Vernon Altvater, and Elisha M. Herndon resuscitated the infant, and nursed the Hospital Care Association in the thirties when it was having financial difficulties. Mr. Herndon, after thirty years of dedicated service to the Hospital Care Association, was in May 1964 elected to its Presidency.

WILBURT C. DAVISON, M.D.

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Venomous Snakes and Snakebites in Virginia

HENRY M. PARRISH, M.D., Dr.P.H.
ANTHONY M. PIRRELLO, JR., M.D.
Columbia, Missouri

The bite of a poisonous snake, although painful and terrifying, rarely causes death in Virginia. Various aspects of the problem including treatment are reviewed.

THE SOUTH ATLANTIC STATES, of which Virginia is a member, have the highest annual incidence of venomous snakebites of any region in the eastern United States. The leading annual snakebite incidence rates per 100,000 population for these states were found in North Carolina (18.79), Georgia (13.44) and West Virginia (11.29). Since two of these states border Virginia it seemed worthwhile to study Virginia's venomous snakebites. Wood, Hoback and Green¹ reported on 15 snakebites inflicted, for the most part, by copperheads in Virginia. Wood² collected 200 venomous snakebite cases in Virginia that occurred during the 13 year period, 1941-1953. These cases were collected from 40 out of 95 general hospitals which were requested to report cases. Medical records were available for detailed study in only 19 hospitals. Wood very wisely stated that he could make no critical estimate of the annual incidence of snakebites in Virginia because these data were based primarily on hospitalized cases.

From the Department of Community Health and Medical Practice, School of Medicine, University of Missouri, Columbia, Missouri.

This investigation was supported in part by Public Health Service Research Grant GM 11268-02 from the Division of General Medical Sciences, Public Health Service.

Many snakebite victims are treated in emergency rooms or as out-patients. The purposes of this study are: (1) to describe the epidemiology of venomous snakebites for the entire Commonwealth of Virginia, (2) to estimate the annual incidence of snakebites based on both hospitalized and non-hospitalized cases, (3) to relate some medical findings associated with these bites, and (4) to review briefly current concepts of snakebite treatment.

Poisonous Snakes

According to Conant,³ the following species and sub-species of poisonous snakes are indigenous to Virginia: the timber rattlesnake (*Crotalus horridus horridus*), the canebrake rattlesnake (*Crotalus horridus atricaudatus*), the northern copperhead (*Agkistrodon contortrix mokeson*), the southern copperhead (*Agkistrodon contortrix contortrix*), and the eastern cottonmouth moccasin (*Agkistrodon piscivorus piscivorus*). Thus, there are five species or sub-species of venomous snakes in Virginia. See Figure 1 for photographs of Virginia's venomous snakes.

Virginia has three of the four major kinds of venomous snakes found in the United States. They are all pit vipers (rattlesnakes, copperheads and cottonmouth moccasins). The fourth major kind of snake, the coral snake, is not indigenous to Virginia. Pit vipers are so named because of a characteristic pit which is located between the eye and nostril on each side of the body. Pit vipers also are identified by elliptical pupils and by two well-developed fangs which protrude from the maxillae when the snake's mouth is opened. Rattlesnakes have rattles which are attached to their tails. Copperheads, cottonmouth moccasins and harmless

snakes do not have rattles. Harmless snakes do not have facial pits, they have round rather than elliptical pupils, and while they have teeth, they lack fangs.



Fig. 1. Venomous snakes indigenous to Virginia.

Oftentimes people will chop off the head of a snake which has bitten someone and bring the snake's body in for identification. Pit vipers can be identified by turning the snake's belly upwards and noting a single row of subcaudal plates just below the anal plate. Harmless snakes have a double row of subcaudal plates. Figure 2 depicts the

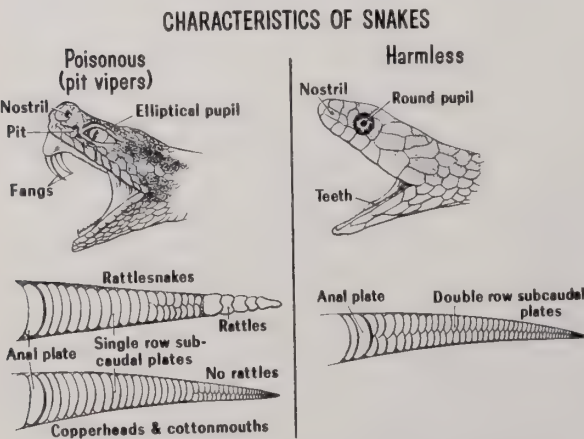


Fig. 2. Characteristic features of poisonous snakes (pit vipers) and harmless snakes.

characteristic features of pit vipers and harmless snakes.

Methods of Study

A questionnaire and letter explaining the purpose of this study were mailed to a "selected" group of Virginia hospitals listed in Hospitals (Journal of the American Hospital Association) Guide Issue. The hospitals selected for this study were general hospitals, children's hospitals and college infirmaries. Army, Navy, Coast Guard, Public Health Service, Air Force and Veterans Administration hospitals also were sent questionnaires. Maternity, tuberculosis and mental hospitals were omitted as they would not be expected to treat snakebite victims. A total of 98 Virginia hospitals comprise the study group. Each hospital was requested to report all in-patients admitted to the hospital for snakebite treatment during 1958 and 1959.

Most hospitals do not code and tabulate the diagnoses of emergency room and out-patient clinic visits. Since some snakebite victims are not admitted to the hospital as in-patients, it seemed essential to ask a sample of practicing physicians how many snakebite victims they treated on both an out-patient (office, home, emergency room, etc.) and on an in-patient basis. Previous surveys,^{4,5} have shown that most people with venomous snakebites are treated by general practitioners, surgeons, internists, pediatricians, and orthopedic surgeons. Therefore, a random sample of one-third of all the Virginia physicians in these categories of practice who were listed in the A.M.A. American Medical Directory were sent questionnaires.

Death certificates for fatal snakebite cases were obtained from the Virginia Department of Health.

Results

This report is based on questionnaires returned by 98 (100 per cent) Virginia hospitals. It is supplemented by questionnaires returned by 428 (74 per cent) of 582 practicing physicians in the State. The Virginia Department of Health indicated that there

were no snakebite deaths during 1958 and 1959.

INCIDENCE—Virginia hospitals reported a total of 166 in-patients treated for venomous snakebites during 1958 and 1959. There were 73 cases in 1958 and 93 cases in 1959—an average of 83 cases per year. Of the 166 snakebites reported during 1958 and 1959, detailed case reports were received for 120 patients and only numbers of bites were reported for 46 cases. *All of the analyses in this paper, excluding the estimate of incidence, were based on the 120 detailed case reports received from hospitals.*

Physicians' reports, when adjusted to account for all Virginia physicians in the practice categories mentioned, indicated that approximately 112 in-patients and 105 out-patients were treated for snakebite accidents each year. The difference between the estimate of 112 in-patients treated by physicians and the average of 83 in-patients reported by hospitals can be explained, in part, by the following facts: (1) nine counties from which physicians reported snakebites did not have hospitals listed in the Hospitals Guide Issue; (2) there was evidence of under reporting snakebite in-patients from 10 hospitals which participated in the study; and (3) physicians indicated that many in-patients were treated in small clinics and hospitals not listed in Hospitals Guide Issue. Taking all of these various reports into consideration, we estimate that approximately 217 (112 in-patients and 105 out-patients) people are treated annually for venomous snakebites in Virginia. This provides an incidence of 5.49 bites per 100,000 population per year.

GEOPATHOLOGY—The geographical distribution of snakebites reported in Virginia during 1958 and 1959 may be seen in Figure 3. The lightly shaded counties are those from which hospitals reported in-patients treated for snakebites. An appropriate symbol is used to mark each hospitalized patient who was bitten by a specific kind of snake. The darker shaded counties are those counties from which physicians re-

ported snakebite cases, but from which no cases were reported by hospitals.

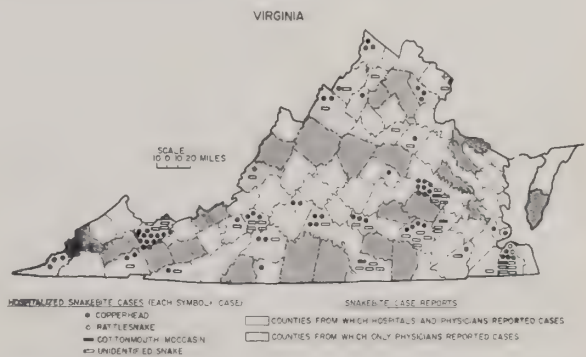


Fig. 3. Geographical distribution of venomous snakebites in Virginia, 1958 and 1959.

Of 120 people hospitalized for snakebite treatment for whom detailed records were available, 67 (56 per cent) were bitten by copperheads, four (3 per cent) by rattlesnakes, four (3 per cent) by cottonmouth moccasins, and 45 (38 per cent) by unidentified poisonous snakes.

Figure 3 shows snakebites were reported from all sections of the State. The largest number of bites were reported in the southwestern and the southeastern parts of the the State. The northeastern part of Virginia reported the lowest number of bites. Copperhead bites occurred in all sections of Virginia. The rattlesnake bites were in three corners of the State. All of the cottonmouth moccasin bites happened in southeastern Virginia. The geographical patterns of bites by various kinds of snakes are consistent with the ecological ranges of poisonous snakes in Virginia described by Conant.³

TEMPORAL RELATIONSHIPS. — The monthly distribution of snakebite accidents is shown in Table 1. Snakebites were infre-

TABLE 1
SEASONAL DISTRIBUTION OF VENOMOUS SNAKEBITES
IN VIRGINIA, 1958 AND 1959

Month	No. Bites	Month	No. Bites
January	0	July	32
February	0	August	24
March	0	September	20
April	1	October	7
May	15	November	1
June	20	December	0

quent during the colder months of the year—December, January, February and March. In general, snakes are usually inactive and/or hibernating during the colder months. Most snakebites in Virginia occurred from April through October when 119 (99 per cent) of the 120 bites were inflicted. This striking seasonal distribution of bites coincides with the time that people have greater exposure due to out-of-doors occupations and recreation. Similar “seasonal epidemics” of venomous snakebites have been observed in New England, and Florida.^{4,5}

The times of day when most snakebite accidents happened were the three-hour period from 9:00-11:59 A.M. when 29 (24 per cent) bites happened and the six-hour period from 3:00-8:59 P.M. when 51 (43 per cent) occurred. The number of bites by three-hour periods of time were: 6:00-8:59 A.M., 11 bites; 9:00-11:59 A.M., 29 bites; 12:00 noon-2:59 P.M., 16 bites; 3:00-5:59 P.M., 21 bites; 6:00-8:59 P.M., 30 bites; 9:00-11:59 P.M., 8 bites; and 12:00 midnight-2:59 A.M., 1 bite. There were no bites from 3:00-5:59 A.M. For four cases the time of the bite was not recorded.

BITE VICTIMS—There were 68 white males, 36 white females, 13 non-white males and three non-white females admitted to Virginia hospitals for snakebite treatment during 1958 and 1959. All of the non-whites were Negroes, with the exception of one American Indian male and one Oriental female. Using the 1960 census of the population of Virginia, the bite rates per 100,000 population were: 4.35 for white males, 3.20 for non-white males, 2.29 for white females and 0.72 for non-white females. Thus, whites had higher snakebite rates than non-whites and males had higher rates than females.

The age distribution of Virginia bite victims is shown in Table 2. The largest number of bites happened to children and youths 10-19 years of age (35 bites) and those 0-9 years of age (33 bites). Indeed 57 per cent of all snakebites were inflicted on children and young adults less than 20 years of age.

Age-specific bite rates are much more meaningful since they take into account the population at risk in a particular age group. The highest biannual bite rates per 100,000 population were: 10-19 years of age (4.91), 60-69 years of age (3.79), and 0-9 years of age (3.76). The lowest bite rates were found among people 40-49 years of age.

TABLE 2
AGE DISTRIBUTION OF HOSPITALIZED SNAKEBITE VICTIMS
IN VIRGINIA, 1958 AND 1959

Age Group (years)	Population at Risk*	No. Bites	Rate per 100,000**
0-9	877,086	33	3.76
10-19	712,335	35	4.91
20-29	536,454	14	2.61
30-39	564,467	10	1.77
40-49	494,126	4	0.81
50-59	359,515	12	3.34
60-69	237,428	9	3.79
70 or more	173,018	3	1.73

*Based on the 1960 Census of the Population of Virginia.

**These rates are only on hospitalized patients for whom information was available.

An analysis of the occupations of the patients showed that 65 were children, 16 were housewives, eight were farmers or farm laborers, five were craftsmen, four were operatives, four were private household workers, and three were in the Armed Forces. The occupation was not coded for the remaining bite victims.

ACTIVITY AND PLACE—Eighteen bites occurred while children were playing outside, 14 in their own yards and four elsewhere. An additional 15 people were bitten while walking or working in their own yards. Eight people were bitten while picking up lumber, wood or rocks, eight while engaged in recreation other than hunting and fishing, and five while handling a venomous snake. Four people were bitten while working on a farm, four while walking or working near a highway, three while picking berries, three while working around a barn, and one each while hunting, fishing, reaching into an obscure place, and on army field exercises. The activity was not tabulated for the remaining patients.

The place where the bite accident happened is closely related to the activity when bitten. The largest number of snakebites, 32, happened right in the patient's own yard. Eleven people were bitten in the woods, seven in a field away from the house, six near a lake, river or other body of water, six on a farm not near the house, six in or under a building, four on or near a highway, four in a field adjacent to the house, and three near a barn or hen house. Of the six people bitten in or under a building, three adults were bitten inside barns while working, one man was bitten by a copperhead in an outhouse, one 63-year-old woman was bitten by a copperhead in her basement, and a 9-year-old boy was bitten by an unidentified poisonous snake in a woodshed. The place where the bite took place was not coded for the remaining patients.

SITE AND SEVERITY—The anatomical sites on human beings where venomous snakes inflicted their bites are shown in Table 3.

TABLE 3

ANATOMICAL SITES OF BITES INFLICTED BY VENOMOUS SNAKES IN VIRGINIA, 1958 AND 1959

Anatomical Site of Bite	Side of Body		Total No. of Bites
	Right	Left	
Head, face & neck	0	0	0
Trunk, front	0	1	1
Trunk, back	0	0	0
Upper arm	0	0	0
Forearm	5	3	8
Hand	14	3	17
Fingers	14	6	20
Upper leg	1	0	1
Lower leg & ankle	16	16	32
Foot	17	16	33
Toes	3	3	6
Not stated	—	—	2

Ninety-eight per cent of the bites were inflicted on the extremities—38 per cent on the upper extremities and 60 per cent on the lower extremities. The fingers and hands were the parts most often bitten on the upper extremities. The feet and lower legs, including the ankles, were the parts most frequently bitten on the lower extremities. One 53-year-old man was bitten by a copperhead on the scrotum in an outhouse. The site was not recorded for two patients.

A modification of the clinical classification of pit vipers venenation by Wood, Hoback and Green¹ was used to determine the severity of bites. Bites were classified as follows:

Grade 0—*No venenation*. Fang or tooth marks, minimal pain, less than 1 inch of surrounding edema & erythema. No systemic involvement.

Grade I—*Minimal venenation*. Fang or tooth marks, severe pain, 1-5 inches of surrounding edema & erythema in first 12 hours after bite. No systemic involvement usually present.

Grade II—*Moderate venenation*. Fang or tooth marks, severe pain, 6-12 inches of surrounding edema & erythema in first 12 hours after bite, systemic involvement may be present—nausea, vomiting, giddiness, shock or neurotoxic symptoms.

Grade III—*Severe venenation*. Fang or tooth marks, severe pain, more than 12 inches of surrounding edema & erythema in first 12 hours after bite, systemic involvement usually present as in Grade II.

The severity of venenation (venom poisoning) was classified as follows for 95 hospitalized cases: 27 (28 per cent) were Grade 0; 42 (44 per cent) were Grade I; 16 (17 per cent) were Grade II; and 10 (11 per cent) were Grade III. For the remaining 25 hospitalized cases the severity of venenation was not stated. There were no deaths among the 120 hospitalized cases in this series. Furthermore, there were no deaths during 1958 and 1959 among the estimated 217 snakebite cases that occurred annually. The case-fatality rate for poisonous snakebites in Virginia is estimated to be less than one-tenth of one per cent. Snakebite deaths in Virginia are rare. This is confirmed by the fact that there were no snakebite deaths in Virginia from 1950 through 1959.⁶ However, Wood² mentioned reports of three snakebite deaths in Virginia in his excellent study. Evidently two of them happened from 1941 to 1950

and one of them happened before 1941. The paradox of a high incidence of poisonous snakebites with a low case-fatality rate in Virginia can be attributed to the high percentage of copperhead bites and the low percentage of rattlesnake bites, to the prompt availability of medical care, and to the effectiveness of snakebite therapy. Rattlesnakes cause more deaths than any other poisonous snakes in the United States.⁷ There were no deaths in the United States definitely attributed to copperheads from 1950-1959. This finding should not imply that copperhead bites are not occasionally serious or are not potentially lethal.

Treatment

The current treatment of North American pit viper (rattlesnake, cottonmouth moccasin and copperhead) bites includes both minor surgery and medical forms of treatment. A constricting band (tourniquet) should be applied lightly to the involved extremity several inches proximal to the bite. The constricting band should be applied only tight enough to occlude the superficial venous and lymphatic flow. *It should not occlude the arterial circulation* and it should be released every 10-15 minutes for a minute or two. As edema resulting from venom poisoning spreads, the constricting band should be advanced to keep just ahead of the swelling. The purpose of the constricting band is to impede the spread of venom until incision and suction can be used to remove the venom mechanically and/or until antivenin can be administered to neutralize the venom.

Incision and suction (I.S.) is effective in removing venom from experimental animals up to about 120 minutes after the venom is injected. The sooner it is used, the larger the amount of venom that can be removed. Suction should be used for about one hour. We have found the suction cups supplied in the Cutter and the Becton-Dickinson snakebite first-aid kits effective for removing pit viper venom. Incisions, one-quarter

inch long and one-eighth to one-quarter inch deep, are made into the subcutaneous tissues over the fang punctures. A few (three to five) additional incisions may be made in the surrounding edematous tissues. A large number of incisions is not needed. Immobilization aids in limiting the spread of venom. However, if one must decide between immobilization or seeking prompt medical treatment, the latter should be sought.

The "3 A's" (antivenin, antibiotics, and tetanus antitoxin and/or toxoid) are recommended, in addition to I.S., in treating all serious pit viper bites. Antivenin Crotalidae Polyvalent (Wyeth) is effective in neutralizing the venoms of all North American pit vipers. It is not protective against coral snake venom. Since antivenin is manufactured from horse serum, the patient should receive a skin test before antivenin is given. For Grade I venenations antivenin may be administered in the deltoid or gluteus muscles. In Grade II and Grade III venenations, antivenin diluted in 1000 cc. of normal saline may be given intravenously.⁸ Studies with radioisotopes have shown that antivenin accumulates at the site of the bite more rapidly after intravenous administration than after intramuscular administration.⁹ Injection of antivenin into the local bite area is not a particularly effective way to administer antivenin. We have found the following amounts of antivenin useful in treating the various Grades of venenation: Grade 0 (no venenation) requires no antivenin; Grade I (minimal venenation) may require 10 cc. (one ampoule) of antivenin; Grade II (moderate venenation) requires 30-40 cc. of antivenin; and Grade III (severe venenation) requires 50 cc. or more of antivenin.

Since snakes' mouths and venoms may harbor pathogenic organisms, antibiotics and tetanus antitoxin and/or toxoid should be given prophylactically. Gram negative organisms predominate, hence a broad spectrum antibiotic is indicated. Penicillin used by itself is not adequate treatment.

Cortisone and ACTH do not affect the survival rate of animals poisoned with pit viper venom. They probably should not be used during the first few days after venenation, although they may be beneficial later in treating serum sickness resulting from antivenin therapy. Antihistamines are contraindicated as they shorten the survival time of animals poisoned with pit viper venoms. Shock resulting from venom poisoning should be treated with infusions of blood, plasma, saline solution and vasopressor drugs. Meperidine hydrochloride and other analgesics may be given to relieve pain. Recently there have been reports of excessive tissue necrosis and amputations associated with cold therapy such as packing an extremity in ice or using ethyl chloride.⁹ In our opinion, cold therapy should not be used in treating pit viper bites.

Summary

An estimated 217 people are treated annually for venomous snakebites in Virginia. Of these, 112 (52 per cent) are admitted to hospitals for treatment and 105 (48 per cent) are treated on an out-patient basis in hospital emergency rooms and in physicians' offices.

Of 120 in-patients reported in detail by Virginia hospitals during 1958 and 1959, 67 (56 per cent) were bitten by copperheads, four (three per cent) by rattlesnakes, four (three per cent) by cottonmouth moccasins and 45 (38 per cent) by unidentified poisonous snakes. "Seasonal epidemics" of snakebites occurred with 99 per cent of the bites inflicted from April through October. July was the peak month for bites.

Males had higher bite rates than females and whites had higher rates than non-whites.

Fifty-seven per cent of the cases were among children and young adults less than 20 years of age. Ninety-eight per cent of the bites were on the extremities—38 per cent on the upper extremities and 60 per cent on the lower extremities. Current snakebite treatment is discussed.

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The Tidewater Committee for the Study of Pelvic Cancer

A Preliminary Report

Reduction in the delay in diagnosis and treatment of pelvic cancer is imperative. The work of this committee will help to accomplish this.

ALTHOUGH THE DEATH RATE from pelvic cancer is decreasing and our modalities for treatment are improving, gynecologists still are far from their goal of eradication of this disease process. Certainly, carcinoma of the cervix, with present knowledge concerning prophylaxis, use of cytology and definitive biopsy, can be treated before it becomes a dangerous lesion. These facts should make most of us agree with Dr. Paul Younge that cancer of the uterine cervix is a preventable disease.¹ Another example is cancer of the vulva which, although the most accessible of all gynecologic cancers, is the most neglected lesion by both the patient and her physician.² Far advanced pelvic cancer may be less common but this type of case is still seen in any institution treating the disease. If we are to improve on our present statistics, it is essential to have both an educated profession and laity.

Presented at a joint meeting of the North Carolina Obstetrical and Gynecological Society and the Virginia Obstetrical and Gynecological Society on May 9, 1964, at Williamsburg.

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These facts were presented before the September 1962 meeting of the Tidewater Obstetrical and Gynecological Society by one of the authors of this presentation (B. D. J.); subsequently, a pelvic cancer committee was formed, consisting of six members appointed by the President of the Society. An advisory committee of eight members from other specialty groups has been added.

Our committee is based on the principles that have been used by the Philadelphia Committee for the Study of Pelvic Cancer. Of historical interest, the Philadelphia Committee was started in 1945 in order to reduce the delay period in the diagnosis and treatment of pelvic cancer. Their Committee was based on the Maternal Mortality Committee which likewise originated in Philadelphia.^{3,4}

What are the objectives of our program?

1. To interview and record, accurately, pertinent data on all patient having the diagnosis of pelvic cancer in the Tidewater Virginia area. This includes approximately a million people, one-fourth of Virginia's population.⁵
2. To evaluate each case for delay factors, using the criteria set-up by the Philadelphia Committee; namely, patient delay, physician delay, institution delay, combined delay, or no delay. A factor present for over 30 days is considered to be a delay.⁴
3. To carry out a broad program of professional education by:

- (a) the use of case presentations
- (b) the publication of interesting cases
- (c) wide distribution of pertinent educational material

The Tidewater Pelvic Cancer Committee has now been in operation for over sixteen months and, at the present time, there are thirteen hospitals and six medical societies participating in the study. Government facilities are not included in this project. The project has had the approval of all hospital staffs, medical societies, tumor clinics and the public health department. The cooperation of the physicians concerned with the cases has been excellent, and to date, of the over 200 physicians approached by our interviewer, only two have refused to have their patients seen. Financial assistance was initially secured by a grant from the Virginia Division of the American Cancer Society; subsequently, a grant has been obtained from the Department of Health, Education, and Welfare to enable the project to continue.

In the initial stage of the project, we were quite fortunate to secure a very exceptional lady to conduct our interviews. She is well known to most of the hospitals and physicians in the area, having been the medical record librarian at a local hospital for many years. It is felt that by the use of a lay interviewer, many pertinent points can be obtained that might otherwise not be available. Great tact is used at all times during the interview so that the patient's suspicion will not be aroused. Any positive question from the patient is always handled with great care. The patient is asked such questions as: onset of symptoms, the physician consulted, whether a pelvic examination was done, the reason for delay, etc. The patient's chart is also reviewed for additional information that may be present.

Earlier reports, from other areas, show that this type of committee can have some effect on reducing delay factors. This is certainly apparent in the decrease of more

unfavorable and advanced stages of cervical carcinoma in Philadelphia and Baltimore.⁶ It is not claimed that such a committee is solely responsible for this trend, but it must have a marked influence.

Our results to date, though not large, do reveal some interesting data. Our cases at this time total 150, of which the ratio of white to Negro is about two to one and the ratio is present in private to clinic status. The population of our area is approximately 75% white and the clinic population is about 10 to 15%, so one can see the usual higher incidence present in the Negro and clinic status patient.

Figure I reveals the distribution in various sites to date.

PELVIC CANCER SITES	
Cervix	83
Endometrium	33
Ovaries	19
Vulva	5
Uterus (Sarcoma)	6
Vagina	4

Fig. I

Figure II is extremely interesting. Certainly, if this trend continues, our cure rate

CARCINOMA OF THE CERVIX	
Stage 0	72
Stage 1	35
Stage 2	25
Stage 3	18
Stage 4	5

Fig. II

for carcinoma of the cervix in our area should improve. 72.2% of our 83 cases are in the more favorable Stages 1 and 2. We are also recording all women with carcinoma in situ, but these patients are not being interviewed. At the present time, there are 72 cases of carcinoma in situ and 83 cases of invasive carcinoma.

In evaluating our delay factors, there was noted to be some delay present in 54.7% of our cases with the patient accounting for 26%.

Of interest in the earlier years of the Philadelphia study, a delay was present in 68.1%.³ A recent study at the University

DELAY FACTORS		
<i>Agent</i>	<i>Patients</i>	<i>Percentage</i>
None -----	68	45.3
Patient -----	39	26.0
Physician -----	29	19.3
Institution -----	9	6.0
Physician & Patient -----	4	2.7
Institution & Patient -----	1	.7
	<hr/> 150	<hr/> 100.0

Fig. III

of North Carolina revealed physician and patient delay was present in 61% of 203 patients with carcinoma of the cervix.⁷

The delay period in both cervical and endometrial carcinoma ranged from two months to three years but the average for endometrial lesions was twice as great as cervical carcinoma.

DELAY IN RELATION TO SITE		
<i>Site</i>	<i>Months</i>	<i>Range</i>
Endometrium	12.4	(2-36)
Cervix	6.3	(2-36)

Fig. IV

At the present time, there are not enough cases in other sites to present any data.

The Committee is now having a dinner meeting every six to eight weeks. The average attendance has been twenty-two physicians. The physicians concerned in the diagnosis and treatment of the cases reviewed are invited to the meeting. Needless to say, great tact and courtesy is used in the presentation and discussion of these cases. Also, on several occasions pertinent literature has been mailed to all physicians in our area. It is felt that this type of professional education will help to improve the delay period in the diagnosis and treatment of pelvic cancer.

Recently there has been some evidence to

show that with the increasing use of cytology the incidence of carcinoma in situ has increased with a decrease noted in invasive carcinoma.⁸ The Pelvic Cancer Committee is now starting an investigation to see if this will be the case in our area. Our cytology program began in 1948 and with 15 years experience, this should reveal some interesting statistics.

Summary

A reduction in the delay in diagnosis and treatment of pelvic cancer is imperative in continuation of improvement in curable cases.

The background for the origin of the Tidewater Committee for the Study of Pelvic Cancer is described and the objectives are reviewed.

Preliminary statistics covering a sixteen months period are presented.

Investigational studies are in the planning stages.

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Alkali Burns of the Cornea and Neutral Ammonium Tartrate

An In Vitro and In Vivo Study

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A carefully planned study has shown that neutral ammonium tartrate has no place in the treatment of alkali burns of the cornea.

THE GRAVE PROGNOSIS of alkali burns of the eye, whether the causative agent be lye (sodium hydroxide), potash (potassium hydroxide), lime (calcium hydroxide), ammonia, or any other strong alkali and the still occasionally recommended treatment of this injury with neutral ammonium tartrate (NAT) has led to the following investigations. Most of the scattered observations reported in the literature¹⁻¹⁴ have lacked a carefully designed experimental approach. Furthermore reports on the results of such therapy in the more recent literature are rare. It is therefore surprising that NAT is still today an accepted treatment by a number of ophthalmologists in their daily practice. Because of this and the controversial reports extant, the following experiments were performed in order to prove or disprove the usefulness and effectiveness of this drug under carefully controlled conditions.

From the Department of Ophthalmology, Medical College of Virginia. This study was supported by the Lions Organization through the Old Dominion Eye Bank and Research, Inc., Richmond, Va.

Method

1. In Vitro Experiment: A total of 45 rabbits were used. The experimental design included the following variables: Three alkali-cornea interaction times (0.5, 2 and 8 minutes), two concentrations of sodium hydroxide (0.5N and 0.35N), two modes of treatment with NAT plus controls (single application, hourly applications) and five enucleation times (3 hours, 12 hours, 2 days, 8 days, and 32 days). The schedule was so arranged as to allow for easy statistical evaluation of the results obtained.

Each rabbit was anesthetized with pentobarbital sodium (nembutal). A filter paper disc, five mm in diameter, was applied to the center of the cornea, wetted with one drop of a known concentration of NaOH, care being taken that no blinking occurred throughout the interaction time. The disc was removed from the cornea after the prescribed interaction time and saved in a nitrogen-filled test tube for titration; the eye was promptly irrigated with 1000 cc of tap-water. One-fourth of the eyes thus prepared were treated with a single application of NAT; one-fourth received hourly application of NAT; one-fourth remained untreated as controls for the singly treated eyes; and the remaining fourth of the eyes received two drops of normal saline hourly for eight hours as a control group for the eyes treated with NAT at a similar schedule. The rabbits were then returned to their cages for observation until time of sacrifice according to the prearranged schedule.

At the time of sacrifice a five mm button, corresponding to the area burned, was trephined from each cornea and placed in a test tube with 0.2 cc of distilled water after being macerated and exposed to sonification at 22 kilocycles per second for 30 seconds. They were then washed and centrifuged three times. The supernatant was titrated with 0.01N HCL from its original pH to pH4, followed by a back titration to pH7, using 0.01N NaOH. The required acid and alkali as well as the interaction time with the supernate was recorded on a strip chart. The characteristics of the curves were statistically evaluated and a computer analysis was performed using a total of nine variables, i.e. strength of alkali, duration of interaction time, type of treatment, period of treatment, time of sacrifice, required acid in microtitration required alkali in back titration, curve slopes and plateaus.

2. In Vivo Experiment: Sixty-two rabbits were utilized. The animals were anesthetized with intravenous sodium pentobarbital. The nictating membrane was retracted by means of a 4-0 silk suture to ensure a uniform burn. Both eyes of the rabbit were exposed to 0.5 cc of 0.5 normal sodium hydroxide. In fifty percent of the experimental animals thorough irrigation of both eyes with 1000 cc tapwater was started exactly one minute after the injury and in the other fifty percent exactly four minutes after injury. The left or the right eye, according to schedule, was treated with a solution of 10 percent NAT. Fifty percent of the eyes to be treated received a single application of two drops of NAT solution immediately upon completion of irrigation while the other fifty percent received further treatment with two drops of NAT solution hourly thereafter for a total of eight treatments. The control eyes for each group were handled accordingly, using tapwater instead of the NAT solution.

In addition to the recorded clinical observations, photographs taken periodically were graded at the completion of the experi-

ment by two independent evaluators, not previously associated with this study.

Results and Discussion

1. In the in vitro study, microtitration was employed as a critical method for evaluating the presence or absence of any effective interaction of NAT with the alkali (or alkali-protein complexes) after its penetration into the cornea. Although such a chemical interaction lacks theoretical background, this part of the experiment was nevertheless carried out in order to clarify the questionable usefulness of this type of therapy by a more objective and basic approach than clinical impression.

Thorough statistical evaluation of the results in this in vitro study has shown that there was no significant interaction between the NAT and the alkali which might have influenced the clinical course of the injury. The results did not demonstrate any difference between control eyes and those treated according to the various schedules. This observation holds true for tests done immediately after injury as well as for those carried out up to a month after injury. The comparison of all factors which were taken as the different variables in the statistical evaluation (see Method) did not bring out any effect which would indicate that NAT might be expected to influence the course of convalescence either positively or negatively. A more elaborate description of the in vitro experimental results is superfluous and therefore not described further.

2. Clinical Evaluation by Biomicroscopy: Utilizing information derived from previous pilot studies, a clinical grading system was so constructed as to include all of the possible degrees of severity which each lesion might demonstrate.

- | | |
|---------|--|
| Grade 0 | No evidence of burn (normal cornea) |
| Grade 1 | Faint nebula, edema of cornea and conjunctiva |
| Grade 2 | Macula or mild to moderate opalescence, iritis |

- Grade 3 Dense opacity (leukoma)
- Grade 4 Ulceration
- Grade 5 Descemetocoele or perforation

The response to NAT treatment, with a single or with hourly applications, appeared to be unpredictable. No significant difference between NAT treated eyes and those treated in a similar manner with tapwater could be observed. Some of the eyes showed improvement after the initial insult and subsequent therapeutic handling, but an equal number of eyes treated in exactly the same manner became worse while the rest remained stationary. A comparison of the different grades of severity having to do with the clinical course of the NAT treated eyes and the controls did not provide any significant information either, since both demonstrated a similar behavior. This holds true for the singly or hourly treated groups as well as for the two different alkali-interaction times. This observation is best illustrated by a comparison of eyes which developed a descemetocoele or perforation as the severest type of sequela. In the "one-minute group" treated hourly with NAT, six out of 19 eyes perforated or presented a descemetocoele, as compared with seven of an equal number of untreated eyes. A similar observation was made in the experimental group exposed to the alkali for four minutes. In this group the number of perforations or descemetocoeles was equal for NAT treated eyes and controls (Table 1).

Although there was no difference within each experimental group, i.e. NAT treated and control eyes, one observation appears worthy of consideration. In comparing the number of descemetocoeles and/or perforations for single application treated eyes, i.e. NAT or tapwater, with those which occurred in the eyes treated hourly, there seems to be an indication that repeated irrigation may have a beneficial effect on the clinical course.

In the entire group treated hourly (either NAT or tapwater) 25 out of a total of 76 eyes presented maximal damage while in the singly treated group 39 out of 48 were thus involved (Table 1). This is statistically significant.

Conclusions

This study was conducted to prove or disprove the usefulness of neutral ammonium tartrate (NAT) in the treatment of alkali burns of the cornea. Statistical evaluation of the in vitro results obtained by microtitration method showed no significant interaction of NAT with the alkali, whether the treatment had been started as early as one minute after exposure of the cornea to the alkali, or as late as 30 minutes post exposure. These results are confirmed also by the in vivo observations made within the study. The clinical course as well as the final outcome of eyes treated with NAT solution and those treated with tapwater on an iden-

TABLE 1
OBSERVED DESCOMETOCELES AND PERFORATIONS IN EYES TREATED SINGLY OR HOURLY WITH NAT
AND CONTROL EYES TREATED IN A SIMILAR MANNER WITH TAPWATER.

Alkali-cornea Interaction	Hourly Application	Total No. of Eyes	Descemetocoele or Perforation	
1 minute	NAT	19	6	Descemetocoeles or perforations Approximately 33%
	H ₂ O	19	7	
4 minutes	NAT	19	6	
	H ₂ O	19	6	
Single Application				
1 minute	NAT	12	8	Descemetocoeles or perforations approximately 80%
	H ₂ O	12	10	
4 minutes	NAT	12	10	
	H ₂ O	12	11	

tical regime was essentially the same. A statistical test of the results showed that less than one case out of 100 might benefit from treatment with NAT. Based on these experimental results, treatment of corneal alkali burns with neutral ammonium tartrate appears unrealistic and devoid of clinical benefits.

There was, however, some indication that repeated irrigation after extensive initial irrigation might have a beneficial effect over a single initial irrigation. This was suggested by the percentage of eyes in either group leading to descemetocoeles or perforations (Table 1). The relatively small number of observations which have indicated this effect, however, are statistically not of high significance. Nevertheless it should raise the question whether repeated irrigations with innocuous irrigation solution may not contribute to a better final outcome.

Summary

The effectiveness of neutral ammonium tartrate (NAT) on alkali burns of the cornea was examined in vitro by microtitration method, and in vivo by biomicroscopic clinical follow-up. The results obtained by both experimental methods indicate that within the limitations of this study the drug has no significant effect on the clinical course nor on the final outcome of the clinical insult.

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Congenital Absence of the Gallbladder

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A case of congenital absence of the gallbladder, a rare anomaly, is reported and the appropriate treatment discussed.

CONGENITAL ABSENCE of the gallbladder is a rare anomaly. It is said to have been known to Aristotle (384-322 B.C.) and that the first pathological report of this condition was published by Lémery fils in 1701 A.D.¹⁰ McIlrath, ReMine and Baggenstoss⁸ collected 143 cases found at operation or autopsy. To these we add three cases reported by Davis and Trower² in 1961 and the case reported today making a total of 147 reported cases. The incidence of cholecystic agenesis varies from 0.03 to 0.09 percent of necropsy series.^{8,10}

Thirty-six species of herbivorous mammals, among these the horse, ass, mule, goat, deer, rat, camel, and rhinoceros, nine species of birds and 12 species of fish do not have a gallbladder.⁹ A gallbladder may or may not be present in the elephant and giraffe.⁴

Congenital absence of the gallbladder is explained by the failure of the embryo in the 3 mm. stage to develop the caudal portion of the hepatic sacculation which is the forerunner of the gallbladder, or failure of the caudal diverticulum to re-establish a lumen by the 15 mm. stage.⁵ Since in the latter instance the cystic duct would be present and therefore would not be included in these cases, agenesis of the gallbladder and cystic duct is due to the failure of the caudal portion of the hepatic sacculation to develop.

Congenital abnormalities of the gallbladder are associated with an increased incidence

of abnormalities of other systems.⁴ These include tracheo-esophageal fistulas, cardiac anomalies, malrotation of the colon, imperforate anus, cleft palates, skeletal and genitourinary abnormalities. The ratio of females to males is about two to one in the cases found at operation for biliary tract disease and about equal in those cases found at autopsy or associated with other diseases. The age at which these have been found at operation varies from 19 to 83 years, although as one would expect they have been found at autopsy shortly after birth.

Kobacker⁷ suggested that this may be a hereditary condition. He reported two cases of congenital absence of the gallbladder in sisters and three of five other sisters of the reported cases showed failure of visualization of the gallbladder on cholecystography. The gallbladder in two second generation girls also failed to visualize.

Symptomatology

Patients with an absent gallbladder who were operated on for gallbladder disease had such symptoms as right upper quadrant pain, nausea, vomiting, bloating and flatulence, fatty food intolerance and at times jaundice. Many of these were found to have common duct stones, 20 of 26 cases with jaundice.⁵ (It has been pointed out that this proves that stones can be formed in the common duct and not just in the gallbladder.) In others the symptoms were due to other conditions such as ampullary stenosis, pancreatitis, duodenal diverticulum, carcinoma of the pancreas, etc., or, as in our case, duodenal ulcer. Since there is no way to distinguish between an absent gallbladder and a non-functioning one, no case has been diagnosed preoperatively, although Kobacker⁷ suggested this possibility prior to the operation

on the second sister and it has been mentioned as a possible preoperative diagnosis in one other case.⁵

Treatment

The absence of the gallbladder in a patient operated upon for gallbladder disease is a startling experience. One must rule out previous cholecystectomy, fibrosis and obliteration of the gallbladder by repeated attacks of cholecystitis, an abnormally located gallbladder such as an intrahepatic, intra-abdominal, left sided, transverse or retroperitoneal gallbladder. Careful dissection and identification of the common duct from the duodenum to the liver is essential, and a cholangiogram should be done at operation to confirm the diagnosis. We were not prepared for this procedure when our case was encountered. Facilities for this should be available for all operations on the biliary tract.

In all cases the common duct should be explored, any stones removed, the ampulla of Vater dilated to an adequate size, at least 5 mm. if possible, and if necessary a transduodenal ampulotomy performed, as some symptoms are no doubt due to ampullary stenosis. When no stones are found, dilatation of the ampulla and T-tube drainage have resulted in disappearance of the symptoms in most of the cases in which this has been done.¹ The author does not agree with the recommendation of prolonged T-tube drainage of several months to "several years" as advocated by some surgeons.³

Aspiration of the liver to locate an intrahepatic gallbladder has been advised. Bile may be aspirated from a large intrahepatic duct, however, as well as from an intrahepatic gallbladder. A persistent biliary fistula after needle aspiration of the liver in a case reported by Robertson⁵ has been cited as a complication of this procedure. In this case, however, the fistula was intentionally caused by the insertion of a tube along the course of the needle in order to relieve the patient's jaundice. No case of intra-

hepatic gallbladder has been reported after a negative cholangiogram. This is a much rarer anomaly than agenesis. Flannery and Caster⁴ in 1956 collected only 16 cases of intrahepatic gallbladder (all of these may not have been completely intrahepatic) and 101 cases of agenesis.

Other conditions such as duodenal diverticulum, ulcer, tumor of the pancreas or biliary system should receive appropriate treatment. In such cases the absence of the gallbladder may be an incidental finding.

Gross⁶ found that compensatory dilatation of the common duct was a rare association with agenesis. Contrary to traditional teaching, I do not think there is a compensatory dilatation of the common duct after cholecystectomy, or when the gallbladder has ceased to function due to fibrosis or blockage of the cystic duct by stones. Gross⁶ findings bear this out. Postoperative intravenous cholangiograms also confirm this. A dilated common duct may be present without stones but this is not dilated because of an absent gallbladder, either congenital or surgical, or to a nonfunctioning gallbladder. It may be a developmental anomaly or due to ampullary stenosis with increased biliary pressure.

Case Report

EMP—An 18-year-old white married female was first seen on February 24, 1953, complaining of pain in her stomach for two months. She had had knife-like pains beginning high in her epigastrium, which radiated over the entire abdomen but particularly to both upper quadrants. She became nauseated and vomited with the attacks which were becoming more frequent. There was no history of jaundice, hematemesis, melena, or clay stools. The attacks were not relieved by food, alkali, or bodily position. The patient had always avoided fatty food.

She gave no history of urinary symptoms or menstrual abnormalities.

Her past history is interesting in that on November 21, 1950, the patient had an

appendectomy at another hospital through a right rectus incision. Exploration of the pelvis and gallbladder region at that time showed "no acute process". Pathological diagnosis was early acute appendicitis. The gallbladder was not removed.

This operation was performed under spinal anesthesia and the patient subsequently complained of pain in her back, severe headache, and pain in her epigastrium with nausea and vomiting. She attributed these to the "four spinal needles" which had been used. Follow-up x-rays of her spine were negative and the diagnosis of psychoneurosis was made. The diagnosis of dextrocardia was also suggested and a GI series was recommended but was not done.

Physical examination—The patient was overweight. There was some epigastric tenderness and some tenderness extending to both upper quadrants and to each flank.

Temperature was normal on admission but ranged up to 100 during her stay. Laboratory work showed a normal urine. Stool was negative for blood, ova and parasites. White blood count was 12,400, hemoglobin 11.5 grams or 75%, and red blood count 4.2 million. Gastric analysis showed 20 degrees of free and 30 degrees of total acid. Icteric index was 4 and prothrombin time 19 seconds with a control of 15 seconds.

A flat plate of the abdomen was negative and gallbladder x-rays showed "only faint visualization of the gallbladder which is almost completely obscured by overlying gas". An upper GI series showed an active duodenal ulcer with a crater.

The patient was discharged on March 4, 1953, on an ulcer diet and an alkali.

She was next seen on July 1, 1956, when she was again referred for "gallbladder trouble".

During the previous three years she had experienced attacks of mild to moderately severe abdominal pain. During the previous three months these attacks had become more frequent and severe with stabbing pains in the right upper quadrant associated with nausea and vomiting. This pain would con-

sistently follow the ingestion of fatty or fried food but on many occasions seemed to be unrelated to any particular food. She had noticed no tarry or clay stools and had only one episode of diarrhea. The patient had lost about ten pounds in the previous three months (from 165 to about 156).

Examination at that time was normal except for her obesity. Her temperature was normal and blood pressure was 122/64.

Laboratory examinations showed a trace of albumin in the urine. The stool was normal, hematocrit was 36%, hemoglobin 71 percent or 11 grams, red blood count 3.8 million, and white blood count 7,550. Prothrombin time was 15 seconds with a control of 15 seconds and icteric index was six. Serology was negative.

Gallbladder x-rays on two occasions showed no evidence of the dye having reached the gallbladder. The chest x-ray showed dextrocardia and an upper GI series showed a deformed bulb with suggestive evidence of a crater. The radiologist's impression was "suggestive evidence of an active duodenal ulcer".

The patient was operated on July 5, 1956, with the preoperative diagnosis of cholecystitis and cholelithiasis. Except for some adhesions from her previous operation, exploration of her lower abdomen revealed no abnormalities. The pylorus was pulled toward the hilus of the liver. There was no evidence of a gallbladder but a small fine line of thickened liver capsule in the region of the gallbladder bed was present on the under surface of the liver. The common duct was identified and was a little thickened but no stones were palpable in it. There was some thickening in the area of the head of the pancreas and first portion of the duodenum and scarring of this part of the duodenum. The common duct was opened after aspirating it. It contained normal bile. No stones were found in the common duct. The ampulla was dilated with a 3 through a 5 millimeter dilator. With a sound in the ampulla, the common duct was palpated and the indurated area in the pancreas was

associated with the posterior wall of the first portion of the duodenum. This was thought to represent a duodenal ulcer perforating into the pancreas. A 12 French T-tube was placed in the common duct. A biopsy was taken of the area of the liver which corresponded to the normal position of the gallbladder or gallbladder bed. The liver was otherwise normal. There was no evidence of a cystic duct.

Because of the ulcer and the patient's recurrent symptoms a vagotomy and posterior gastroenterostomy were performed.

Pathological examination of the liver biopsy showed no significant pathological changes of the liver and no gallbladder tissue was seen.

The patient had a satisfactory postoperative convalescence and on the seventh postoperative day a T-tube cholangiogram was done. This showed—"the common duct and all its branches to be well filled and apparently normal. There is no suggestion of a cystic duct or gallbladder" (Fig. 1).



Fig. 1. T-tube cholangiogram seven days postoperative showing a normal biliary tree.

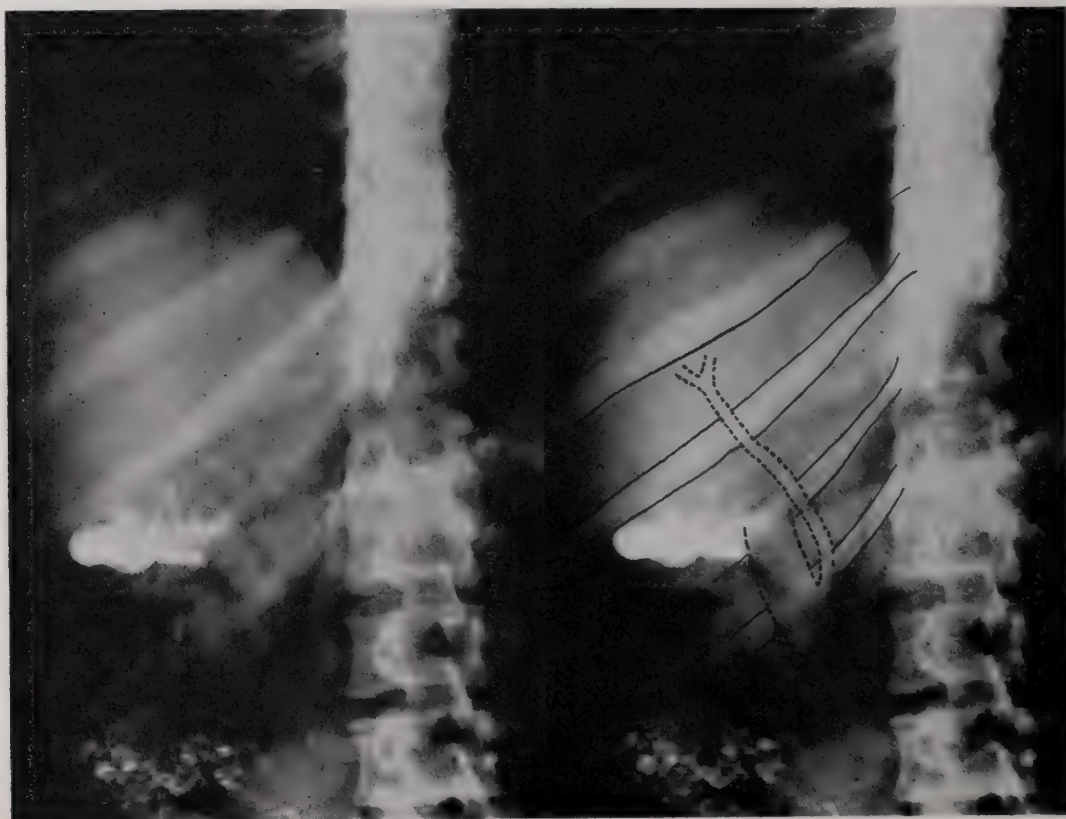


Fig. 2. Intravenous cholangiogram made on July 26, 1958, showing normal common duct and branches without evidence of intrahepatic gallbladder.

To try to demonstrate an intrahepatic gallbladder an intravenous cholangiogram was attempted in September 1957 but the dye was all excreted by the kidneys and none by the liver. Dr. W. D. Haden kindly repeated this on July 26, 1958, after oral administration of gallbladder dye seven hours previously.

The common duct and its major branches were nicely demonstrated. There was again no evidence of dye in a gallbladder (Fig. 2).

These examinations did not show an intrahepatic gallbladder although this is not completely ruled out, as a stone in the cystic duct of an intrahepatic gallbladder could prevent its demonstration. No such case has been reported, however.

This patient subsequently developed a pyloric and a marginal ulcer which were treated by 50% gastric resection including the ulcers, and an anterior gastrojejunostomy in July, 1960. An operative cholangiogram made at that time was normal.

The patient was last seen on November 5, 1963. She has occasional abdominal pain and nausea and vomiting which she attributes to her nerves as this only occurs when she is especially nervous.

Summary

A case of congenital absence of the gallbladder is reported and the literature briefly reviewed.

When this condition is found at operation, unless it is an incidental finding, the

common duct should be exposed from the liver to the duodenum, the common duct explored, any stones removed, and the ampulla dilated to a diameter of at least 5 mm. T-tube drainage and operative cholangiogram or T-tube cholangiogram should be done at that time.

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A Statement of Belief

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The author very ably discusses the position of the state mental hospital, its function and development.

EVALUATION OF AN INSTITUTION, individual, group, course of action, method of approach, or what have you, will usually proceed along two lines of inquiry. One may make comparisons with the past or comparisons with present peers and situations. The ever present problem of the care of the mentally ill is again receiving public attention as it has so often in the past and both avenues are being utilized. "Custodial" has become a dirty word and "therapeutic" is its antithesis. Our State Hospitals are criticized as being "custodial institutions" rather than "therapeutic hospitals" and Virginia's position below the average of these United States in various mental health activities is emphasized. An educator and sociologist (quoting the Fifteen Indices) recently stated that Virginia must run as hard as she can in order to stand still and not fall further behind. President Kennedy's message on February 5, 1963, was critical of all the states and our Governor's reply, in which he advanced our recent gains, was interpreted by some as opposition to the improvement of present conditions, which it was not, rather than opposition to the method of improvement, which it was. A leading newspaper ran a series of articles

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which emphasized the deficiencies of the mental hospitals in our State, and these criticisms have been augmented from without and within the Department of Mental Hygiene and Hospitals. Such a state of affairs is of concern to all of us, and this includes those who are working in our state hospitals. Are we a poorly organized, unmotivated, improperly controlled group of employees without adequate planning or financing rapidly getting nowhere on a stationary treadmill, or do we have some idea of what we are trying to do and how to go about doing it? Must we continue to defend ourselves in repetitive fashion by emphasizing our recent improvements and minimizing our deficiencies relative to our neighbors? Isn't it just possible that there might be a fresh approach? The theme of this paper is to examine these questions from my viewpoint as superintendent of a particular state hospital during the spring and summer of 1963.

What we call the scientific method is a procedure by which we develop special areas of knowledge. The first step is the collection of raw and perhaps unrelated data. Secondly, these data are classified so that they become comprehensible. Finally, laws or formulations are derived which make prediction accurate and management of the future possible. Hipparchus and Ptolemy described the heavenly bodies according to size, brightness, movements, etc. Copernicus classified them as stars, planets, comets, etc. and in so doing displaced the earth from the center of the universe. Finally, Kepler developed laws and formulas which enabled mankind to predict the future positions of planets and stars. Nuclear physics makes it no longer incredible to consider the possibility of altering the orbits or movements of celestial bodies.

Compared with mathematics, physics and astronomy, psychiatry is not yet a science and is still in the data collecting stage. Classification of our collected data is rudimentary and we are without formulations to predict accurately or to alter significantly the behavior of those with whom we deal. We can embrace psychiatry as a fallow field in which to plow a furrow of new knowledge, or as a primitive, anxiety provoking pseudo-science best left to the spooks. Certainly psychiatry is a specialty for which there is a great demand and need, but which in the present state of our knowledge has little scientific basis.

The various divisions of our knowledge extend from established, scientifically supported and generally accepted disciplines to the newer, undeveloped and nebulous parasciences. Mathematics is our most exact science and mathematically two plus two equals four. One step higher, we advance to physics, still a science of relative exactness, but where the concept of significant numbers results in two plus two not equaling four but possibly equalling 3.999 plus or minus .001. Ascending the ladder still further, we pass through inorganic chemistry to organic chemistry and the biological sciences including anatomy, physiology, pathology, etc. A considerable degree of predictability exists at this point but we are rapidly leaving the area of exactitude. Continuing upwards we encounter sociology, psychology, and psychiatry, each more complex than the last and each less developed and less scientific.

Attempts to solve problems at the complex upper levels of our knowledge are commonly approached by attempting to reduce the problem to a lower level. Thus, the psychiatrist confronted with psychiatric or psychological problems will resort to cellular pathology, pharmacology, chemistry, etc., in the hopes that an understood technique can be applied to an unformulated problem. In the history of medicine it is possible that 99.44% of the research directed toward mental disorders has been somatic in charac-

ter. After all, how can one think along sociological, cultural, psychological, or psychiatric lines if these special divisions of our knowledge have not yet come into existence or are still undeveloped?

The term, mental illness, is used euphemistically in the Statutes of Virginia in place of insanity. Psychiatrists use the term psychosis, the laity refer to our patients as being crazy, and our grandfathers were familiar with lunacy. Mental illness, psychosis, insanity, "those of unsound mind", lunacy or craziness are all synonyms for the same condition, but by any name this condition has never been adequately defined, no specific method of treatment has been devised, and there are only speculations as to its cause.

It does not take an expert to classify the active leaders of a community as usually being sane, and the delusional, hallucinating patients in a locked ward as being mentally ill. However, as we approach a midway point along the continuum between these two extremes we reach a point of confusion. People can be sane at one time and psychotic at another; one can be a little bit crazy; the sanest person has moments when he is mentally unbalanced and the most chronic psychotic patient goes through periods of lucidity. Mental illness is not like pregnancy (whoever heard of a woman being a little bit pregnant?) and as yet we have no pathognomonic signs, symptoms or tests to establish its presence or absence. Just imagine what a psychiatric equivalent of Koch's postulates would mean today. As an example, after a serological test for syphilis was discovered the number of patients diagnosed as paretics was reduced 50%.

Treatment has always been palliative and symptomatic. Each new method has been greeted with enthusiasm, exploited, hailed as a panacea and relinquished or its usage minimized. Zilboorg and Henry have described this psychiatric grasping at straws as a fundamental part of the attitude of medicine toward mental disease. Any physiological or chemical discovery throughout the history of the past two hundred and fifty years has

at once attracted attention and immediately all mental conditions regardless of their clinical and individual variations have become equated and the remedy in vogue applied with naive empiricism and frequently with a relentless persistence which has overshadowed scientific enlightenment and humane considerations. We can take doubtful pride in the accomplishments of Cotton who is one of the few American innovators. He sacrificed endless feet of intestines and thousands of teeth from the young and the old, and from all varieties of mental disease. The results were as inconclusive as the transfusions of calf blood for melancholia which were initiated in 1667 by Denis with the blessing of the professors of the Ecole de Chirurgie.

Many energetic modern day therapists find that providing the patient with non-specific, non-somatic treatment is a dull business indeed, and the unfortunate recipient of such services who does not respond favorably and quickly may soon find himself involved in a series of procedures which may cost him his frontal lobes or even his life. As I have stated already, neither the private hospital, the medical center, nor the research foundation have any unique, specific, or magical methods of treatment. When our patients do well it is usually because we have established an environment which is conducive to their recovery. Doctors do not go around advertising their lack of specifics or the potential of human beings to recover spontaneously. On the contrary, the opposite is true. Freud did the schizophrenic patient a great disservice when he stated that they were untreatable by psychoanalysis. He confirmed the pessimistic and unscientific pronouncements of Kraepelin who diagnosed his patients in retrospect and influenced the world to accept progressive deterioration and incurability as the pathognomonic features of schizophrenia. A favorite excuse of the psychoanalyst and other therapists has been that the unsuccessful analysis was an unrecognized psychotic from the start and, therefore, not a thera-

peutic failure. Better to be a poor diagnostician than a poor therapist. When Harry Stack Sullivan demonstrated the recovery of his patients at Sheppard and Enoch Pratt Hospital he was subjected to prejudiced skepticism and unbelief which still persists in many minds. When he established the recoverability and the treatability of schizophrenia he made one of the very few outstanding contributions by a non-European psychiatrist. Even Mrs. Packard who worked frantically to improve our commitment laws did so by representing the mentally ill as chronic, violent, and sexually dangerous. She attempted to correct one evil but substituted a more damaging one. I once attended a symposium on low back pain where the therapeutic procedures for alleviation of this condition were reviewed. It was interesting to note that all of these procedures produced almost identical statistical end results. There was little difference in the percentages of those who responded favorably or unfavorably despite the fact that diverse techniques were being compared. It is possible that the common denominator of effective treatment was the associated rest in bed and not the surgical intervention. Very few people pass through this life without a backache and very few backaches last a lifetime. The analogy to mental illness should be obvious.

A recent study of after-care in five states reported similar favorable end results in spite of the fact that the services employed varied widely and ranged from providing tranquilizers to time-consuming psychoanalytically oriented psychotherapy. I believe that the common denominator in this instance was not the treatment of the patients, but the influence of the total situation on the relatives of the patient. If the after-care clinic and the doctor are satisfied with the progress of the patient, then the family feels more secure and is not so apt to return the patient to the hospital unnecessarily or prematurely. Screening of admissions and readmissions is notable for its absence in our state mental hospitals. If day-care and after-care can

serve this important function it makes more sense than having the community over-diagnose its citizens in order to get them out of the community and into the hospital, and for the hospital to retaliate by under-diagnosing its patients and returning them to the community as not mentally ill. The comparison of the patient to a ping pong ball is all too apt.

Our present day failure to recognize and accept the tendency of mental illness to remit spontaneously has kept us engaged in a frantic effort to achieve a specific remedy for an undefined condition, while we have neglected to emphasize the benefits of a therapeutic environment which will be conducive to the recovery of the patient. No treatment methods have much success if the patient is not treated as a person and even Cotton's mutilations brought about some favorable results because of the attention the patients received. During my short ten years in psychiatry I have seen insulin therapy, electric shock, lobotomy and psychoanalysis wax and wane. Drug therapy is in front at present but indications for its use are being better understood and the present trend is away from drugs for every patient and toward environmental influence or milieu therapy.

One hundred years ago the causes of mental illness were listed as masturbation, unrequited love, venery, studiousness, and other similar rationalizations which we now call precipitants rather than causes. Fifty years ago etiology embraced alcohol, syphilis, and heredity. Today it is not fashionable in sophisticated circles to argue whether environment or heredity cause mental illness, as it was twenty-five years ago, but the relative part each plays is still a lively topic of discussion, and we still do not understand etiology.

What I have discussed so far has to do with the general, over-all problems which beset psychiatry. I would like now to take up some of the more specific and immediate problems which face state hospitals in Virginia. The average citizen, most physicians,

and some psychiatrists assume without a doubt that our hospitals are filled to the bursting point with "mental patients," and that if the hospital staff could or would function efficiently large numbers of these patients could be "cured" and "discharged." I was recently dismayed to read in the press an unqualified statement attributed to one of my colleagues to the effect that with proper facilities 85% of his state hospital's patients could be released, presumably to the community. I have no such fantasies. One-fourth of all patients admitted to our hospital are over sixty-five years of age and of our patients in residence, one-third are in this group. Even if we assume that a large percentage of these patients had psychopathology when committed, it is evident, upon even casual inspection, that on our wards they present only a picture of senility and a need for reasonable medical and nursing care. It is common to have patients in their seventies and eighties admitted to our state hospital. Recently we received a woman aged 95 years and I have been on duty when five patients, all over 75 years of age were admitted in less than twelve hours. Medical centers and general hospitals have purged their wards of chronic cases by transferring them to state hospitals and I have seen these patients arrive not only moribund but dead. A credit manager in a general hospital once defended this practice on the grounds that if the state must care for chronic cases it was cheaper to do so in a state mental hospital where the per diem was, at that time, \$2.50 a day rather than in the general hospital where the per diem was \$9.50 per day. What he missed was that it cost just as much to provide personal service in one hospital as in the other and that this personal service was provided for the chronic medical or surgical patient in the mental hospital at the expense of the mental patient for whom the hospital was intended. I might add that this condition is not limited to the State of Virginia and that the commitment of an aged person does not always result in death in the institution.

It is to the very great credit of our medical and social service departments that some of these patients are returned to the community. However, their separation from the hospital is a difficult task and the rewards are not great.

One-fifth of our patients are committed as alcoholics and drug addicts. The Statutes of Virginia deal with this group as an entity separate from those who are mentally ill and this distinction is time honored by professionals, judges, and legislators. I am interested in alcoholism and alcoholics, have worked directly with these patients for a long time and have accumulated some experience. I am convinced that often they are worse off than those who are mentally ill. They do not live as long as the schizophrenic patient, their recovery rate is much lower, their insight is less, they have access to fewer and less effective means of treatment, and they are constantly humiliated and degraded.

In addition to the aged and the alcoholic, the state hospital cares for a miscellaneous group whose classification as being mentally ill is open to considerable question. These patients are not hospitalized for treatment but for custody because of social offenses against the community. Included are the mild or moderate mental defectives, those who won't work, the sexual deviants, the juvenile delinquents, the psychopaths, the hypochondriacs, the rejects of socially prominent families, those with permanent brain injuries, the uneducated, the unskilled, and others. Separating them from a hospital is mostly a matter of perspiration rather than inspiration. For this task I would rather have a good stenographic pool than a staff full of board certified psychoanalysts.

When I recently stated that almost half of our patients did not require psychiatric care, one of our consultants admonished me for setting the figure too low. I would like to be more specific, however, regarding my personal feelings and opinions toward this group which I feel is not within the scope of a mental hospital. I do believe that these

patients need care, consideration, study, and access to residential treatment centers according to their needs. I also believe that at present our state hospitals can care for these patients more effectively than any other department of the state and also that our state hospitals can care for them more economically. I commend our state hospital board for their humane policy toward the aged patient as evidenced by the continuing construction of geriatric facilities. What concerns me is the prevalent attitude of lumping all of these heterogeneous problems under one heading and calling them mental illness. To be criticized, praised, rewarded, evaluated, budgeted, and regulated under the assumption that a state hospital treats a homogeneous group of "mental patients" is a frustrating experience, and if I use this occasion to release some of my aggression, in what I trust is a socially acceptable manner, I hope you will bear with me.

Recently a mother berated me because our hospital had not "cured" her 20-year-old son after thirty days of hospitalization. The young man under consideration was an educational failure, not capable of self-support, physically threatening to his family, unable to learn from experience and without apparent conscience. He came in a package, complete with switchblade knife and braggadocio. For ten years his mother had successfully evaded teachers, social workers, doctors, and others who had advised her to seek help for her son. I answered her with a question. When a child grows up, graduates from school, goes to work, marries, and raises a family, do we say that the child was cured? To say that this distorted human being is grist for the psychiatric mill is debatable. To say that he can be influenced by somatic therapeutic methods is naive. To say that he is mentally ill in the statutory sense is incompatible with current nosology. To say that he represents an unsolved problem is obvious, and to say that my personal failure to convince those about me that mental illness is a mental disorder but that

all mental disorders are not mental illness is an understatement.

Who are the people who work in our state hospitals, what are their qualifications, and where do they come from? It is tempting to consider the presentation of charts, tables and statistics in general. (Incidentally, I recently heard statistics compared to bikini bathing suits. They reveal some attractive features but conceal the essentials.) I will resist the temptation to present such a survey at the risk of being criticized for over-generalization. My basic contention is that a small minority of trained personnel (doctors, psychiatrists, psychologists, social workers, graduate nurses, and others) are attempting to treat the large majority of hospitalized patients in our hospital, in our state and in our country. The most frequent reason given for psychiatrists entering private practice and not mental hospitals is the monetary reward involved. Perhaps there is some truth to this assertion and many people believe that loss of status by the medical profession is a result of its preoccupation with money. I do not like to believe that people study medicine to make money, but if this is true then we are remiss if we do not attempt to correct the situation. If every member of the Neuropsychiatric Society of Virginia worked in our state hospitals we would have only one "psychiatrist" for every 150 patients, and fewer than 15% of the members of the Society are so employed. I am encouraged by plans for expansion of services, community mental health centers, abandonment of large state mental hospitals, and other contemplated advances, but I cannot help but wonder about where the money and the personnel to carry out these plans will come from. As of July 18, 1963, I doubt very much that I will live to see the situation significantly change, and of necessity I find it imperative to approach our every day problems with the means at hand and to guard against rationalizing failure by bemoaning our lack of funds and personnel.

Let us consider the matter of training

psychiatrists. I contend that the typical medical school or university center program which is accredited for psychiatric residency not only fails to prepare a psychiatrist for work in a state hospital but actually directs him away from this end. In such curricula the emphasis is on a one to one relationship between patient and doctor. The resident is restricted in the number of patients he sees and is indoctrinated in individual psychotherapy. This training prepares the psychiatrist for private practice and not to meet our current problems in the care of the vast majority of our patients. If such a person, due to obligated service, lack of information, or other causes, does go into a state hospital he is frequently beset by anxiety and frustration. To be confronted by a hundred active cases can be a most frightening experience if one is unprepared. Psychotherapy (the universal antidote) is impractical, the assembly of voluminous records is unrealistic, the responsibilities are overwhelming, and the effort to present a facade of competency becomes unbearable. It is not surprising that the physician often adopts neurotic defenses such as rationalization, denial, indifference, and premature resignation. This experience or its anticipation (to paraphrase Mr. Churchill) is one of the factors which continue the care of the many by the very few. The training program which does not provide adequate experience in a state hospital cannot be considered well rounded. It is important to expose the resident to outpatients, psychosomatic cases, short term hospital patients, neurotics, and the like, but the experience of working with the rich variety of schizophrenic patients found in our state hospitals is irreplaceable. It is unfortunate that in many instances accredited programs in state hospitals have also neglected the training of residents in dealing with the problem of the physician meeting the needs of many patients. All too often the medical center is mimicked, the individual approach is emphasized and the mass of patients are bypassed. I certainly have no intention of making such radical changes

in our own hospital's training program that our accreditation will be endangered, but at the same time concerted efforts are being made to meet the need for a more balanced approach. It is ironical that the same training centers which forward their chronic custodial cases to a state hospital have not recognized the need these institutions have for specially trained psychiatrists.

What about research? Medical institutions have three principal outlets for their services: 1) the care and treatment of patients, 2) the training of personnel, and 3) research. Medical foundations have emphasized research, medical schools training, and hospitals the care and treatment of patients. Recently, many believe that the emphasis in medical schools is increasingly being shifted to research. However, in our state hospitals there is no doubt that the primary effort is attached to the care of the patient, with training a poor second, and research almost non-existent. Research is an expensive activity and in most state hospitals the diversion of funds and personnel away from patient care is not defensible. However, the capacity to innovate, evaluate, record, and advance empirically is essential in any well-run institution and may well be considered a critical or scientific inquiry akin to research. As Frank Curran impiously remarked, "I am against sin and in favor of research." Certainly to take any other attitude is a risky business in this day and age, but I feel that our state hospitals should depend upon our medical centers and foundations insofar as we are concerned with pure research and its handmaiden serendipity.

I have been negative in my approach and perhaps bombastic as I have attempted to correlate the situation we face in our public relations, available man power, training of personnel, efforts to establish a science of psychiatry, and associated problems. I do not consider this a dilemma in which we are concerned solely with selecting the least unfavorable course of action, but rather as a challenge to our ability as problem solvers. A superintendent has many functions not

the least of which is his role as a manager. I do not believe that a superintendent should be over-concerned with top level policy which should evolve higher in the hierarchy. I am deeply concerned with the effective execution of such policies and in so doing it becomes necessary to set goals for our particular operation. It would be grandiose to aim at having the best hospital in the country and degrading to avoid all controversy in an effort to maintain personal security. At the risk of being platitudinous I feel that our principal goal should be to extract the ultimate output in patient service from the current input in available resources by seeking for and utilizing new methods and approaches rather than old ones. Service to patients should take precedence over the convenience of personnel, uninformed or misinformed demands of the community, the pressures of the powerful, the fears of the timid, and the inertia of the conservative. Definitions of what constitute patient service vary with the attitudes of those concerned and range from the custodial minded who regard a patient as a vegetable to be cultivated, watered, and fertilized, to the idealist who considers anything less than an orthodox five year psychoanalytic couch job as neglect and deprivation.

How can we improve our services to our state hospital patients without becoming involved in programs demanding personnel or funds which are prohibitive or unattainable? Dr. Paul Hoch has suggested the modernization of admission procedures to eliminate stigma, psychological trauma, delay, and civil death. He urges expansion of the open hospital philosophy which involves not only the turning of a key but carries with it a more liberal attitude toward home visits, participation in community activities, discharge, and respect for our patients' human dignity. It is a sad commentary on our hospitals that up until a relatively short time ago no woman who was in the menstruating years was ever allowed the privilege of the grounds and was always

kept in a locked ward. Hoch also advocates that a continuous program of inservice training be a part of every hospital's operation. He believes in improvement of our internal and external communications so that all levels of personnel and the community are made aware of the motives that guide our program. The informed community will render community support to the hospital. The concentration of professional and sub-professional personnel on the problems of the newly admitted patient at the earliest possible time is one of his most useful points. One might argue that all of this does not constitute "treatment" per se, but one cannot deny that a therapeutic program could hardly exist without these fundamentals. Hospitals managed along these lines have a high level of achievement.

If the development of a hospital environment which is conducive to the recovery of our patients is one of our most important goals we should have some plan or method to help us attain this desirable end. I propose that instead of descending the scientific ladder to a more basic specialty than psychiatry, which is customary, that we go upwards. Instead of utilizing older disciplines such as history, jurisprudence, finance, or architecture, I suggest that we look to one of our more recent branches of knowledge—administration.

The birth of modern administration as a science did not take place until 1882 when Frederick W. Taylor reached the conclusion that inefficiency and low production in the steel industry was the result of poor management. He formulated the duties of management under four headings: 1) to develop a true science of management; 2) to select the best qualified personnel and to train and educate them; 3) to develop different groups to plan and to execute tasks; 4) to develop and maintain a spirit of cooperation between management and personnel. Taylor had a difficult time, as have many pioneers, but he succeeded in initiating a fresh concept which was continued after 1912 as the era of the efficiency expert. Although many of

Taylor's ideas such as the measurement of the task by time studies and the motivation of the worker by differential wage plans were perverted by the efficiency experts to the extent that the labor unions rejected "Taylorism," Taylor himself was never an "efficiency expert" and should not be held accountable for the misuse of his original ideas by others.

1925-1932 was a very significant period in the development of administration because of the Hawthorne studies. A study was carried out in an electrical manufacturing plant to note the effect, if any, that increasing the amount of light in the plant would have on production. The level of illumination was gradually increased until it approached that of the noonday sun. It was not surprising that production increased as light increased, but it was most surprising to discover that subsequently when the light was gradually reduced to moonlight levels that production still remained at its high peak. Physiological studies had demonstrated that continuous activity generated lactic acid, that lactic acid caused fatigue, and that fatigue lowered production. On the theory that the inhibition of lactic acid formation would increase production another study was undertaken with the institution of progressive coffee breaks and a decrease in the length of the working day. Again production rose as the working hours decreased and again the investigators were confounded when production remained up even though the coffee breaks and short working hours were abandoned and workers were returned to their original schedules.

These paradoxical results attracted the attention of sociologists who found that the increased production was not the result of increased lighting or coffee breaks but the result of a change in the attitude of the workers. Because these studies had been discussed with the workers and their opinions had been sought in a spirit of mutuality the working conditions had changed. As the workers felt that they were better respected their personal security increased and they

worked harder and more efficiently. As the importance of the worker's attitude became better understood, continued studies revealed the existence of the informal organization which is within all formal organizations. Also, it was found that the values of management were not the values of personnel. The values of a workman consist of four "don'ts": 1) Don't do too much work and become a rate buster. 2) Don't do too little work and become a chiseler. 3) Don't be a squealer—let the boss find out for himself. 4) Don't be officious and act like a boss. On the other hand the aim of management is to accomplish predetermined objectives through the efforts of others.

During World War II, administration as a specialty entered a period of emerging professionalism when the possession of a master's degree became a necessity for qualification as a hospital administrator, a business executive and for many government positions. Nothing is sadder than the loyal employee with years of service who cannot accept or believe that his experience is no substitute for formal training and that he cannot be promoted. It is beyond the scope of this essay to explore the current ramifications of administration, but listing some of the areas of interest in the field should be illuminating to those who believe an administrator is an accountant, time keeper, or purchasing agent. Administration is concerned with analysis, attitude, authority, behavior, charism, communication, compliance, control, creativity, decision, effectiveness, efficiency, innovation, interview, leadership, management, merit, morale, motivation, organization, personality, plan, policy, problem, publicity, punishment, reward, solution, strategy, symbolism, technology, and many more topics which range from A to Z. Administration has borrowed heavily from psychiatry, psychology, sociology, anthropology, mathematics, and other specialties lower down the ladder and in so doing is developing a new and different approach to problems not only old but also new. Anyone with experience in supervision will appreciate that personnel

can present more difficult problems than patients and that the same solutions do not always work with both. It is granted that basically we are dealing with interpersonal relations and that such problems are common to patients, personnel, relatives, and members of the community. If science is knowledge and art is the application of knowledge, then administration is an art which has been utilized to influence the behavior of most non-patients, and psychiatry is an art which has been utilized to influence the behavior of those who are patients. In a total institution like a state hospital we are not dealing with the classical one to one, patient-doctor relationship, but with a much more complex situation which involves personnel, relatives, and the community as well. Psychiatry and administration cannot afford the luxury of standing alone but must join together if we are to have optimum function.

I am continually amazed by the influence which a physician wields in our hospital. A particular doctor assigned to a 100 patient service with 25-35 ancillary workers may compile an enviable record. The discharge rate goes up and the readmission rate goes down. Patients and personnel request transfers to his building. Relatives are complimentary and the over-all attitude is excellent. With a change of doctors the situation can alter quickly and be reversed. Discharges diminish and readmissions increase, patients and personnel avoid the service, complaints arise, and housekeeping deteriorates. How can the replacement of one person by another in such a large group produce such a profound change? I do not believe that laziness, lack of interest, malice, or lack of psychiatric skill are responsible very often. The significant ingredient is the administrative ability of the physician. If he understands the difference between policy making and management, can organize his co-workers, motivate people, and exert reasonable controls, he will run a clean ship. The poor performance of the physician in the second case is, in most cases, the result of

poor supervision and inadequate instruction. Any doctor who continues in state hospital service and is happy in his work will develop management skills. This period of development can be shortened if adequate inservice training programs are utilized.

I can remember very well a junior staff physician and a social service aide, neither of whom had had any psychiatric experience. They joined the relatively meagre staff of one of our state hospitals not because of any particular interest in psychiatry but because they needed the money. This is a switch from the doctors and social workers who leave for the larger rewards of private practice or federal payrolls. During their first six months in the hospital their work was satisfactory but not outstanding. At the end of this time, however, they had become better oriented, their goals were better defined, and their effectiveness increased as they became more efficient. During the last quarter of the year they set an enviable record in separating patients from the hospital. These patients were well selected, well prepared for trial visit or discharge, and realistic plans had been made for them after they left the hospital. Relatively few were subsequently readmitted. It is a familiar phenomenon that the census of a hospital decreases as doctors continue in service and rises when new physicians replace those who have left. This is most noticeable when completion of residency training brings about a mass exodus and influx on July first each year. Whenever possible we should stagger our appointments to avoid this situation and favor those applicants who indicate an interest in continuing their work in our state hospital system.

Some of the ways in which the young resident or junior staff physician can be helped when he assumes his duties for the first time is to help him to develop administrative skills. The examples which follow are incomplete but are offered for the purpose of illustration.

1) To become familiar with a hundred or more new patients may seem an over-

whelming task, but if each new patient is interviewed immediately, a few old patients are interviewed each day, and an effort is made to address each patient by name, the process can be shortened. It is particularly helpful to be accompanied by an attendant who can introduce the new physician to strange patients, and refresh his memory about those he has forgotten.

2) Consultation on a mutual basis with ward personnel is a necessity before changing routines. Such changes should not be made rapidly but when they are made they should be made in a positive fashion. Do not underestimate the power and informal authority of the attendant who has been on the ward for years. Such an attendant has enormous influence over the patients, and to antagonize him or her either knowingly or unknowingly will result in trouble. Unfortunately, it will be the patient who suffers the most. The better the relationship between the doctor and his fellow employees below the medical staff level, the easier and more effective his work will become. The relationship to be sought is one of mutual participation and respect.

3) Daily ward rounds need little comment, but if the physician can occasionally visit his ward during off hours and become familiar with personnel on all three shifts he will gain a great deal. The physician who eats an occasional meal with his patients will be in a better position to evaluate food service and answer comments about the food. Our food service director advises me if unjustifiable complaints arise, and if I eat an unannounced meal in the dining room concerned it does more good than hours of investigation. Incidentally, I have entertained state hospital board members, the commissioner, the business manager, visiting superintendents, prominent members of the community and others in our patients' cafeteria. I have yet to see a visitor leave food behind on his plate. In addition to ward and cafeteria visits it is also helpful to attend occasionally at recreational activities of the patients. Active participation is not neces-

sary but periodic attendance is more effective than a thousand words in letting patients know the doctor is interested.

4) Spot manipulators. Every hospital has patients and employees who create antagonism between services and individuals. T. F. Main has given an excellent description of this group in an article entitled "The Ailment". Avoid the trap of unjustifiably blaming your colleagues and give such trouble makers special attention.

5) The ward physician should keep the Clinical Director and Superintendent informed about special problems and special patients. Frequently all that is needed is a carbon copy of a progress note. The young physician is not expected to be perfect and he should be encouraged to go to his supervisors if he needs help. It is much better to be waked up in the middle of the night than to spend time the next day attempting to rectify an error.

6) One should visit staff meetings as often as possible. The patients being presented may be transferred to a physician's own ward and the information which he acquires will not only be helpful to him but impressive and gratifying to the patient.

7) If the hospital does not have a routine setup for answering telephone calls the physician should let it be known when he will be available to talk to relatives and others. These calls may be time consuming and at times irritating but they can prevent misunderstandings and relieve many problem areas. Two way communication is necessary and the relative who "can never talk to a doctor" may not only be disturbed but may cause a disturbance. Family contacts present some of the most difficult problems of all. A frequent dynamism may be referred to as the "relative syndrome" which is notable for its obscurity to most young physicians and the difficulties it engenders. Most people do not have their relatives committed to a state hospital without considerable doubt, soul-searching, and guilt. Guilt is a particularly noxious human emotion which is usually relieved by the application of

punishment. However, if one can convince oneself that guilt does not exist the relief is even greater. The family who have sent grandma off to the state hospital attempt to wash away this guilt by assuming that grandma was so sick that there was really no choice in the matter. However, when they visit grandma and find her in improved physical health, receiving no medication or medical care and enjoying the privileges of what we refer to as a "yawd cawd" the defense crumbles. The next step is an additional assumption that grandma is being neglected, that the doctor doesn't know what he is doing and "something must be done". The confrontation scene with the physician can be an amazing production. The more the family demand special care and attention the more the physician tries to reassure them with evidence of the patient's good health. This is the last thing that the relatives want to hear and as they become more persistent the doctor's irritation increases. The ultimate explosion is finally precipitated by one of two remarks. Either, "Why don't you take grandma back home if you think the hospital is so bad?" or "How do you expect me to give grandma special attention when I have 200 other patients to look after?" These famous words have resulted in more complaints to the Commissioner than I care to remember. The resolution of the "relative syndrome" is obvious and simple but we still have to teach it to all levels of our personnel continually.

8) Erving Goffman in his book *Asylums* comments at length on the manner, or lack of manners, which personnel often exhibit to patients generally. Ignoring the presence of a patient, failing to say good morning or take leave, not tipping one's hat to ladies, criticizing a patient in front of others, habitually failing to use a title in addressing patients and a multitude of similar small discourtesies can add up to major failures in patient care and treatment. It is distressing to realize that at times we must remind well raised and well educated people to be genteel. A Victorian mother who enforced good

manners in her child could be one of the best assets this child has when he grows up and becomes a psychiatrist.

9) The difficult transition of our state hospitals from custodial to therapeutic units has not been helped by the emphasis on individual psychotherapy as the only worthwhile method of treatment. I believe in psychotherapy, personally engage in formal, scheduled individual, group and family therapy, and encourage all levels of personnel to do the same consistent with their background and training. If these efforts can only reach a very small percentage of our patients it does not mean that all is lost for the rest. The physician on the ward should set realistic goals and make these goals known to all persons working with patients. In a state hospital the ultimate goal is the return of the patient to the community. It is very well to be interested in the behavior of a patient in the hospital but what is important is to be interested in how this patient will behave after he leaves the hospital. Mass meetings of as many as 50-100 patients on the ward with the physician can be most helpful, and patient self-government should be encouraged. Frequent meetings of psychologists, social workers, chaplains, rehabilitation counsellors, nursing personnel, occupational therapists, volunteer workers, and others may seem time-consuming but the free discussion and exchange of information is very productive. If the physician has an attitude of hope and is enthusiastic in his devotion to his patients he will transmit this attitude to those with whom he works and if the physician acts out his belief in the priority of the needs of the patient he will accomplish much.

10) Just as all members of the community are expected to have certain duties and responsibilities, it is important for hospital patients also. The constant supervision of the physician to prevent his patients from spending their time in idleness or from being exploited as free labor by the hospital is necessary.

11) Both the community and hospital

personnel are puzzled when patients who are as normal as blueberry pie in the hospital develop anxieties and symptoms soon after discharge and require readmission. A husband recently asked me what it was we did to his wife that made her so "lovable and normal" in the hospital and so "mean and sick" when she came home. Perhaps his question involves the narrowness of our therapeutic approach and can be best answered by a comparison.

Consider the arteriosclerotic diabetic patient who presents a gangrenous toe to his doctor and says, "I feel fine. Don't bother with a general examination, just fix my toe." If the physician took the patient at his word and did not see the sore toe as a symptom of a general systemic disorder the patient would perish. Only if the patient is considered as a whole person can his insulin deficiency be recognized and corrected so that treatment of the presenting symptom can be carried out successfully.

If the patient is part of a disordered marriage then her treatment without consideration of her husband as another part of the marriage which needs help may be as ineffective as treating the gangrenous toes of a diabetic without insulin. If a family presents us with schizophrenic sister Susie for treatment and tells us that everybody is all right except Susie, we are justified in being skeptical. The family or some of its members may not accept treatment if it is available and offered, but the need should be obvious to the psychiatrist. This problem is approached sometimes by transferring the patient from the hospital to family care, a half-way house, or almost any neutral environment other than the one in which the illness developed or was noticed. The analogy can be carried further by hypothesizing that if Susie is the symptom of an ill family, the family is a symptom of a sick community and a sick community is a symptom of a sick world. To consider treating the world may be grandiose or paranoid, but there is nothing new about it and Sullivan wanted to try it.

12) Stanton and Schwartz demonstrated that the psychopathology of our hospital patients is usually in inverse proportion to the harmony of the staff. When two or more individuals, groups, or departments become embroiled the most significant manifestation is the behavior of the patients, and the severity of the manifestations is in direct proportion to the importance of the adversaries in the organization. As a manager I have found that if trouble breaks out I had better look to my staff. When complaints about the food are made, the escape rate goes up, relatives complain, the Commissioner asks for a rash of reports, and the house is disturbed then the superintendent had better get on his horse, run up a flag of truce, and try to negotiate a peace treaty between the embattled factions. A new member of my staff who had a wide hospital experience, recently told me that Eastern State Hospital was the only hospital he had ever been in where there were no cliques, departmental antagonisms, or group feuds. He was not entirely accurate, but he increased my respect for our staff and my hat size simultaneously.

It has been said that a poorly run hospital promotes mental illness and the current trend to small mental hospitals is based, in part at least, upon the belief that large hospitals are therapeutically unmanageable. I am sure that small organizations are simpler to administer and manage than large ones, but it is preferable to be a patient in a well run large hospital than in a poorly run small one, and I am not convinced that large hospitals cannot be administered along therapeutic lines. It is even possible that there might be some fringe benefits in largeness itself. If the hospital is a laboratory in living where the patient learns to adjust to the community by learning how to adjust to the routine of life in the hospital, then hospital life should be as much like community life as possible. Most patients come from communities which are larger than hospitals, and it is not entirely unrealistic to assume that adjustment to a large hospital might

better prepare a patient for community living than adjustment to a small one. By expanding or restricting our facilities from room seclusion to closed wards, open wards, industrial therapy, town passes, visits home, etc. we have a flexible, therapeutic modality which can be adjusted to the needs of the individual patient. Perhaps what is wrong with large hospitals is the attitude of the people who operate them rather than mere size. In any event the issue is academic rather than practical. I cannot conceive of the citizens of Virginia abandoning the present multi-million dollar investment which exists. The most optimistic estimates place the conversion to small hospitals 25 to 30 years in the future and as I said before, "Today is July 18, 1963."

The foregoing examples which have been presented are based more upon the principles of administration and public relations than on psychiatry but both are here to stay and the need to encourage their symbiosis should be obvious. Certainly, psychiatrists, both young and old should be acquainted with the existence of modern administration as a specialty, learn what it has to offer, and apply to our own problems the help which it offers.

Thirty-five years ago an architect in designing a state hospital would provide six to eight times as many beds as there were annual admissions. If this ratio were followed today Eastern State Hospital would have almost 12,000 beds rather than 2,247 which we have. In the last fiscal year the ratio was about 1.32 and this improvement has been due to more liberal policies regarding separation and a more tolerant attitude by the community, as well as by improved psychiatric and administrative methods. It has gotten to the point where it is easier to get out of the hospital than it is to stay in.

A preoccupation to epitomize, generalize, reduce, and distill an idea or ideas to the briefest and most concise statement may result in the final expression losing its resemblance to the original. One may throw away the meat and keep the bones. In spite of past

experience I am yielding to temptation and am closing these heterogeneous remarks with such an effort. About a year ago I saw a most impressive teaching film which presented the problems of administration and management dramatically. The message it contained was the Golden Rule and the application of its principle to administration and management. It is equally important in our mental hospitals where administration and treatment become interdependent. Two of my favorite psychiatrists are Samuel B. Woodward and Francis Taliaferro Stribling, two of the original founders of the American Psychiatric Association. One hundred and twenty-six years ago Dr. Stribling in a message to the Assembly of Virginia commented upon the problems of mental hospitals and the treatment of patients as follows: ". . . we meet them as friends and

brothers; we cultivate their affections; interest their feelings; arouse their attention, and excite their hopes; we cheer the desponding, soothe the irritated, and repress the gay; in a word we treat them as human beings, deserving of attention and care. . . ."

Two years earlier Dr. Woodward had expressed the same philosophy. "If there is any secret in the management of the insane," he commented, "it is this: respect them and they will respect themselves; treat them as reasonable beings, and they will take all possible pains to show you that they are such; give them your confidence, and they will rightly appreciate it, and rarely abuse it."

I cannot improve upon either their conviction or their prose today.

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The Rising Tide of Government Medicine

I have yet to see any desk-bound administrator or full-time politician who knows as much about the needs of a body as does the person who attends that body on an individual basis hour after hour. Concern and caution are advisable, of course, for all—drug maker, drug prescriber, drug dispenser and drug user. But when lay judgment is substituted for professional judgment, when the sick refuse to take what is wisely prescribed, when consumer representatives and motivation hunters try to resolve medical problems without medical knowledge, when the medical profession is notified of government interventions in drug use through the popular press rather than through normal professional channels, when the public receives medical information about drug reactions before the profession is informed, the already ailing members of the public will suffer even more. In fact, they will suffer more than any other group since it will be their own bodies which are deprived of needed medical counseling and remedies.—Austin Smith, M.D., in *Oklahoma Medical Journal*, 57: 8 (August) 1964.

The Use of Immunofluorescent Techniques as a Diagnostic Aid in Rheumatic Heart Disease

The pathological process involved in rheumatic fever is unknown. Many investigators have been intrigued by the possibility of an immunologic mechanism. This association has been suggested by some workers using new techniques. In 1937, Brockmann² reported the reaction of rheumatic sera with heart extract using complement fixation. Covelti,¹ in 1945, reported the detection of auto-antibodies directed against an extract of heart tissue circulating in rheumatic sera. The immunologic specificity of these reactions was undetermined and findings drew little attention until 1959 when Kaplan³ applied the immunofluorescent technique to connective tissue diseases. A characteristic deposition of bound gamma globulin was reported on sections of rheumatic heart obtained by surgical biopsy or at post mortem.⁴ This was invariably found in a sarcolemmal and subsarcolemmal position and, frequently, in blood walls and interstitial connective tissue.

Kaplan's group,⁵ in 1962, found that an antigen adherent to the cell walls of group A, type 5 streptococcus which, when injected into rabbits, produced an antiserum that reacted with the sarcolemma of normal heart muscle as well as with several types of group A streptococci. Recently, the antigen has been partially purified and its properties described.⁶ The corresponding antigen to heart muscle had been found in saline extracts of myocardium,⁷ and these extracts, when injected into rabbits for several successive weeks, produce focal cardiac lesions similar to acute rheumatic lesions in human hearts. The lesions contain bound gamma globulin.

The above findings contribute to the concept that exposure to group A streptococci

in the susceptible and probably hyperresponsive individual results in the production of autoantibodies to heart muscle with the subsequent deposition of gamma globulin in the myocardium.

The antigen-antibody binding may interfere with cellular respiration resulting in the pathologic changes of rheumatic heart disease.⁹

The use of immunofluorescent techniques was of utmost importance in the development of this concept. Fluorescein-tagged antibody provided visual evidence of the immunologic abnormality and consequently opened broad new frontiers for investigation. One of the many promising possibilities is the application of this technique as a diagnostic tool.

The departments of pathology and pediatrics collaborated in a pilot study using sera from patients provided by the latter's department. The purposes of the study were to determine: 1) the specificity of the reaction, 2) the reproducibility of results and finally 3) the feasibility of routine use of this diagnostic procedure.

The method was adopted from that used by Hess and associates for detection of gamma globulins in frozen sections.*

Method

Sera were collected from patients suspected of having acute rheumatic heart disease ("positive sera").¹ Other sera were collected from patients without symptoms of rheumatic heart disease and with known low antistreptolysin (ASL) titers for use as controls. The sera were stored at -20°C .

Heart tissue was obtained from premature infants dying of non-cardiac causes. The hearts were quick-frozen and stored at -50°C . until sectioned in a cryostat. Fluorescein-tagged goat antihuman globulin was

*Personal Communication

obtained from Difco Laboratories and stored, after reconstitution, at 5 °C.

Tissue sections, 3 microns thin, were cut in a cryostat, thawed on a slide, fixed in acetone for 10 minutes, air-dried, and rinsed with buffered saline. Serum was applied to the dry sections for 30 minutes in a moist chamber, washed for 15 minutes in three changes of buffered saline, and stained with fluorescein-tagged antihuman globulin for 15 minutes. The slides were again washed for 10 minutes, drained, and mounted in buffered glycerine.

A Zeiss ultraviolet microscope with mercury lamp and red excluding filters was used for examination of the sections. Known positive and negative sera were examined with each series.

Reference sera were established after the first series and the fluorescence was estimated as 1+, 2+, 3+ and 4+ with strict criteria for each grade depending upon intensity of fluorescence and upon the struc-

whereas sera from the non-rheumatic controls did not fluoresce. The intensity of the fluorescence correlated well with the clinical activity of the heart disease.

Repeated tests on the same serum samples showed good reproducibility of results. The use of different fetal hearts failed to alter the grading of the reaction after repeated staining.

One patient (A.F.) showed a positive staining reaction without proven rheumatic heart disease, although she had an ASL titer of more than 625 Todd units, an SGOT of 72 units, and equivocal clinical findings. The 4+ fluorescence caused by her serum cannot be readily explained. It is possible that she may have had rheumatic heart disease in a brief, acute form, without detectable heart damage. An alternate explanation of this finding is a streptococcal infection with a group A organism that excited the production of cross-reacting immune bodies.

Patient A. H. was a substantiated case of

	Date	ASL	Sed.	CRP	SGOT	Clinical Heart Activity	Fluorescence
P. G.....	4/23	250	32	3+		0	++
	5/10					0	+
H. P.....	4/22						+++
	5/10	500	33	0	30	++	++
	6/23	250	10	0		AI & MI	+
L. F.....	4/12	625	14	2+		++++	++
	5/10	125	12	0		+++	++
R. C.....		250	15	2+	13	++	++
H. S.....		625	30	1+		+++	++++
A. F.....		625	25	1+	72	0	++++
H. H.....		625	16	0		++++	++++
J. D.....		500	11	3+	42	+++	++
S. W.....		500	31	3+	26	+++	++++
I. W.....		166	32	0	12	+	+
A. W.....		333	9	0	34	pericarditis	0

tures stained. Lack of fluorescence was read as negative; staining of blood vessels alone as 1+, a faint flow from the tissue indicated 2+, a definite network pattern was 3+, and intense staining of sarcolemmal sheaths, connective tissue and vessels and read as 4+.

Results

The findings are summarized in the table. All sera from patients with known active rheumatic disease produced fluorescence

pericarditis. No heart autoantibodies were detectable in her serum. (The ASL titer was 333 units.)

Three patients (P.C., F.L., and H.P.) had serum samples examined both during and after the acute phase of the heart disease. The qualitative fluorescence decreased with time corresponding to the drop in ASL titer.

These results must be interpreted with caution until a large series of patients can be tested. The pilot study is encouraging.

Summary

Fifteen sera of patients suspected of having rheumatic heart disease and fifteen sera of patients with unrelated diseases were layered on three micra thin sections of fetal heart and incubated with fluorescein-tagged goat antihuman globulin.

1. All of the sera from patients with clinically diagnosed rheumatic heart disease contained anti-heart immune antibodies detectable by the fluorescent antibody technique.

2. None of fifteen control sera produced fluorescent activity. In the first trial run, insufficient washing resulted in flecks of fluorescence remaining on the tissue and upon foreign particles.

3. The procedure is quickly performed and reproducible.

4. Present evidence suggests that clinical activity of the disease correlates with in-

tensity of fluorescence in carefully controlled tests.

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MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Sept. 1964	Sept. 1963	Jan.- Sept. 1964	Jan.- Sept. 1963
Brucellosis	2	2	16	7
Diphtheria	—	—	—	—
Hepatitis	41	52	431	669
Measles	23	62	13160	8053
Meningococcal Infections	1	2	46	70
Meningitis (Aseptic)	1	4	10	25
Poliomyelitis	—	5	—	6
Rabies (In Animals)	25	15	255	161
Rocky Mt. Spotted Fever	3	1	34	34
Streptococcal Infections	417	416	8166	7154
Tularemia	1	1	5	7
Typhoid Fever	1	1	12	8

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Oral Cancer Detection Program

The Virginia Dental Association, at its annual meeting in 1963, voted to initiate a coordinated state-wide program for the early detection of oral cancer. A cancer committee was appointed at that time and the Dental Division of the State Department of Health was designated to plan and organize the program. A representative of the Department of Pathology of the Medical College of Virginia School of Dentistry agreed to act as technical consultant to the committee.

The committee decided that the use of a simple oral smear technique would be encouraged. The technique would not supplement biopsy procedures, but rather would be an aid to the general dental practitioners in determining whether or not an abnormal area in the mouth has malignant cells. The advantage of the oral smear technique is that it is simple and not objectionable to the patient.

The State Dental Association approved the following objectives:

To develop a professional education program for the dentists in private practice and for the public health dentists conducting local health programs. Training would consist of the detection and diagnosis of oral cancer.

To develop a state-wide oral cytology service for dental practitioners.

To demonstrate the cooperative role of

the State Department of Health and a dental school in professional education.

To cooperate with industry, service organizations and state agencies in establishing a program with emphasis on the early detection of oral cancer.

The first phase of this program will consist of a series of eight educational courses to which members of The Medical Society of Virginia will be invited.

The courses will be conducted at the regional level; one course to be given in each of the eight areas of the State. As soon as the dates have been agreed upon, a schedule of the time and place of the courses will be announced.

The responsibility of individual patient education will be assumed by all participating professional personnel. Group education will be the responsibility of the State Department of Health in cooperation with the Virginia Division of the American Cancer Society. Special emphasis will be given to the segment of the population which is 40 years of age or above, as it is this group which is most prone to have cancer. It is estimated that 31.9 per cent of 1,381,589 persons in Virginia is in this age group.

The Oral Cancer Detection Program is sponsored by the Virginia State Dental Association in cooperation with the Virginia State Department of Health, the Virginia Division of the American Cancer Society, the Medical College of Virginia School of Dentistry and The Medical Society of Virginia.

JAMES B. FUNKHOUSER, M.D.

How the War Came to Dr. Stribling

An earlier account has described how Eastern State Hospital fared in the War between the States. The hospital at Williamsburg was quietly occupied by federal forces early in the conflict. It was operated as a mental hospital for the duration. Possibly Dr. John Minson Galt, the superintendent, died from the shock of being dispossessed.¹

In the valley of Virginia, Western Lunatic Asylum, the other mental hospital operated by the Commonwealth (and directed by another founder of the American Psychiatric Association) had a peaceful existence until almost the end of the civil strife. But the fortunes of war did not leave the institution at Staunton untouched. Indeed the "scorched earth policy" newly invented in the "last great war between gentlemen" came as a bitter blow to Dr. William Taliaferro Stribling.

By September of 1864 General Jubal Early was in retreat as he admitted "in considerable confusion." Sheridan then set out to reduce the valley's food producing capability to the point that—as Grant had put it—"crows flying over it for the balance of the season will have to carry their own provender with them." From mountain to mountain, Sheridan's army spread out and swept down the valley, burning barns, mills, destroying crops, driving away or slaughtering cattle, sheep, chickens and other livestock.

"I have destroyed," Sheridan was able to report, "over 2,000 barns filled with wheat,

hay and farming implements; over 70 mills filled with flour and wheat; have driven in front of the army over 4,000 head of stock and have killed and issued to the troops not less than 3,000 sheep . . . " ² Dr. Stribling later reported to his board of directors:

" . . . That on Saturday morning the sixth inst., a detachment from General Sheridan's army arrived at Staunton having under guard Confederate soldiers said to have been captured at Waynesboro; that I was unable to learn who was in command and addressed a note, as soon as they arrived, to the 'Provost Marshal or other officer in command' informing him that the institution was a State Charity appropriated exclusively to the care of the Insane containing over three hundred of that class of patients and respectfully asking that it be protected from unnecessary intrusion—but before I could ascertain where headquarters were located, a party of cavalry, numbering about three hundred, rode into the back yard of the asylum commanded by one who was introduced as Colonel Seely—that I availed myself of the brief time allowed to announce to the Colonel the character of the institution the number of insane under our care. His response was 'I will do nothing except upon orders which have come regularly through.'—That thereupon a large quantity of supplies was taken—or wantonly destroyed, to wit: about 180 barrels of flour, 10,000 pounds of bacon, . . . pounds of beef; a large quantity of corn, oats and rye: three mules, 1 set carriage harness, 3 sets of wagon harness, 50 pairs of shoes, a quantity of hay and some wearing apparel belonging to the patients.

"Comments upon this act of vandalism, unprecedented in the history of civilized warfare, is unnecessary. We simply deem it our duty to report the facts to your Excel-

FUNKHOUSER, JAMES B., M.D., *Assistant to the Commissioner, Department of Mental Hygiene and Hospitals, Richmond.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

lency and through you to the Legislature of the State, in order that they may put it upon the record, and that your wisdom may devise some adequate remedy by which the destitution of these poor unfortunates may be provided for.”³

An outraged superintendent thus gave ex-

pression to a sentiment that prevailed in Virginia and the south a century ago.

SOME HISTORICAL NOTES OF JOHN MINSON GALT, JR.

1. Virginia Medical Monthly, 88: pages 374-376, June 1961.
2. Richmond Times Dispatch, Monday, September 21, 1964.
3. Mental Health In Virginia, Winter—62-63.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
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I certify that the statements made by me above are correct and complete—E. Spencer Watkins, Business Manager.

The Medical Society of Virginia

Public Relations Institute

The 1964 Public Relations Institute held at the Drake Hotel, Chicago, August 20-21, was one of the best that I have had the privilege of attending over the past eight years. So outstanding were the speakers who appeared on this program that they need not be mentioned for fear of omitting or not giving proper credit to some.

The theme of this Institute was "Public Relations in the Jet Age" and the discussions were patterned after various phases of flight and activities of the jet age.

Dr. F. J. L. Blasingame, Executive Vice President of AMA, started the meeting by clearing everything for the takeoff. Jim Reed, Director Communications Division, helped us reach our cruising altitude and from there on such subjects as Membership Participation (Getting a Full Crew); Speakers Bureaus (This is Your Captain Speaking); Mediation Committee (Air Turbulence-Fasten Your Seat Belt) which is a much more comprehensive and enlightening title than Grievance Committee; Guarantee of Care For All (First Class Service For All); Emergency Call Systems (SOS); consumed the first morning of the meeting.

During the afternoon, such subjects as Medicine and the News and Winning Ways with Passengers were climaxed at 6:00 P.M. with a Champagne Flight. During this flight, we were privileged to see a skit "How To

Succeed in Organized Medicine", the cast being composed of staff members. This was a real eye opener and I had no idea that in addition to an excellent staff, we had so much theatrical talent.

Friday morning we had a preview of "Educational Television for the Next 10 Years". A Panel on Public Service Projects concluded the morning session.

Friday afternoon, the flight got back on the ground with a tour of AMA Headquarters.

An innovation at this meeting was the presence of eighteen Commercial Exhibits.

Our state was represented at the meeting by Dr. William Dolan of Arlington, Robert Versprille, Executive Secretary of the Norfolk Medical Society, Bob Howard, Executive Secretary of The Medical Society of Virginia, and your chairman.

It was a real privilege, as I said before, to attend this meeting at which I think all of us gained a great deal. In closing, I wish to urge again, as I have in the past, that these meetings be attended by the President, President-Elect of our State Chapter as well as the same officers and PR Chairman of the component chapters of The Medical Society of Virginia so let's start making plans now to have a bigger representation from Virginia at the 1965 PR Institute.

JOHN WYATT DAVIS, JR., M.D., *Chairman*
Public Relations Committee

Editorial

New President



McLEMORE BIRDSONG, M.D.

IT IS INDEED A PRIVILEGE and a pleasure to be asked to contribute an editorial about my longtime friend and colleague, "Mac" Birdsong.

Mac was born in Suffolk on December 11, 1911, and, of course, was weaned on peanuts and peanut oil. He attended the local schools, graduating from Suffolk High School in 1930, and attended Randolph-Macon College, 1930-33, graduating in Medicine at the University of Virginia in 1937. Following an internship and residency in Pediatrics at the University Hospital, 1937-39, he was House Officer and Resident at the Children and Infants Hospital in Boston, 1940-41. Upon reaching years of discretion, Mac returned to his Alma Mater in 1941 as Assistant Professor of Pediatrics, advancing to Professor of Pediatrics in 1955. In addition, he was Acting Chairman of his Department, 1960-1964.

He is a Diplomate of the American Board of Pediatrics and is a member of all of the general and pediatric medical societies, including the Southern Society for Pediatric Research.

So much for the purely biographical data—now for the really vital information which gives one a measure of this truly well-rounded man. In

addition to being an excellent and devoted teacher and clinician (I don't know which to put first), Mac has found time to take a very active interest in organized medicine as exemplified by the various offices which he has held. These include past presidency of the Virginia Pediatric Society, co-founder of the Southern Society for Pediatric Research, past chairman of the Pediatric Section of the Southern Medical Association, chairman of several of the committees of The Medical Society of Virginia, and many other offices and "chores" too numerous to mention. Other medical activities have been: Founder and Director of the Rheumatic Fever Clinic, University of Virginia, 1941 to date; consultant for the State Department of Health for Western Virginia and co-founder with Dr. George Minor of the Congenital Heart Clinic of the University of Virginia.

As though all of these duties and accomplishments were not sufficient for this versatile busy clinician, teacher, and leader in medical organizations, Mac has taken an extraordinary interest in local civic and business affairs. He is a founder member of the Wesley Memorial Methodist Church in Charlottesville, a past President of the Rotary Club, a member of the Albemarle Planning Commission for 14 years, and presently a member of the Charlottesville Planning Commission, as well as being a member of the Civic Improvement Council, and a member of the Board of Directors of the Citizens Bank of Charlottesville. Last but not least, Mac is the longtime Secretary and mainspring of the Medical Alumni Association of the University of Virginia.

He is a member of Pi Beta Pi Medical Fraternity; O.D.K. (National Scholarship and Leadership Fraternity); A.O.A. (Medical Scholarship Society) and Phi Kappa Sigma Social Fraternity.

He is married to Charlotte Spain of Petersburg, she being a graduate of the University of Virginia School of Nursing. They have three sons, Mc-Lemore Jr., James Spencer and Harvard R. II.

This factual material demonstrates the well-rounded character of this man whom you chose as President-Elect of The Medical Society of Virginia in 1963 and who took over the reins in October.

Unfortunately, mere words and facts cannot express the many facets which his myriad of friends appreciate—his absolute mental honesty, his loyal friendship, his thoughtfulness for others, his kindness to his little patients and their mothers—all of these things which are the attributes of a gentleman and a scholar.

Mac, we, your many friends salute you, wishing you a successful year in office, and assuring you of our real support.

VINCENT W. ARCHER, M.D.

And the Memory Lingers On—

And all those in attendance at the annual meeting of The Medical Society of Virginia at The Golden Triangle, Norfolk, October 11-14, said this was the "best ever".

There was a total registration of 864, which included 552 doctors, 163 ladies, 140 exhibitors, and 9 non-medical guests. There were forty-eight technical exhibits and fifteen scientific and all exhibitors seemed pleased at the attendance at their booths.

Dr. McLemore Birdsong, Charlottesville, succeeded Dr. Richard E. Palmer, Alexandria, to the presidency, and the following officers were elected: president-elect, Dr. Alexander McCausland, Roanoke; vice-presidents, Drs. Harry M. Frieden, Norfolk; Boyd H. Payne, Staunton; and Thomas S. Edwards, Charlottesville; executive secretary-treasurer, Robert I. Howard, Richmond; Speaker of the House, Dr. Kinloch Nelson, Richmond; and vice-speaker, Dr. W. Callier Salley, Norfolk. Councilors are: Drs. F. Ashton Carmines, Newport News; K. K. Wallace, Norfolk; Thomas W. Murrell, Jr., Richmond; A. Tyree Finch, Farmville; W. Nash Thompson, Stuart; Harry B. Stone, Jr., Roanoke; Dennis P. McCarty, Front Royal; Guy F. Hollifield, Charlottesville; W. W. Walton, Pulaski; and Michael A. Puzak, Arlington. Dr. Vincent W. Archer, Charlottesville, was re-elected a delegate to the American Medical Association, with Dr. Richard E. Palmer, Alexandria, as alternate. Drs. W. Linwood Ball, Richmond, and Allen Barker, Roanoke, hold over for another year, with Drs. W. Callier Salley, Norfolk, and Russell Buxton, as alternates.

New Members.

The following new members were received into The Medical Society of Virginia during the month of September:

Francis D. Andres, M.D., Annandale

Abbas Bashir, M.D., Falls Church

Nila Kirkpatrick Covalt, M.D.,
Alexandria

Ralph M. Curt, M.D., Falls Church

James Lee Gardner, M.D., Virginia Beach

Herbert Stelwyn Gates, Jr., M.D.,
McLean

Echols A. Hansbarger, Jr., M.D.,
Lynchburg

Robert Leslie Ilaria, M.D., Herndon

George Gordon Kay, M.D., Fairfax

Theodore Eliot Keats, M.D.,
Charlottesville

Leo Edward LaRow, M.D., Fairfax

James Phillip McEntee, M.D., Richmond

Alfred Paul Pavot, M.D., McLean

Joseph Hyram Roe, Jr., M.D., Fairfax

Gardner Watkins Smith, M.D.,
Charlottesville

John Vernon Torbert, Jr., M.D.,
Lynchburg

John Edwin Trevey, M.D., Galax

Southwestern Virginia Medical Society.

The fall meeting of this Society was held in Wytheville on September 14th, with the president, Dr. Thomas W. Green, presiding.

At the business session, Dr. Garrett, Dalton, was elected president; Dr. W. W. Walton, Pulaski, vice president; and Dr. Joseph Early, Hillsville, secretary-treasurer.

Lynchburg Academy of Medicine.

Dr. Phillip R. Bryan has been installed as president of the Academy, with Dr. Frances R. Whitehouse being named president-elect. Dr. William H. Barney is vice-president and Dr. Edward J. Stoll, secretary-treasurer. Drs. G. Edward Calvert, Joseph E. Mathias and Vincent R. Crowder are new members of the Board of Directors.

Dr. Martin Retires.

Dr. Walter B. Martin, Norfolk, has announced his retirement after forty-five years

of practice. He is a former president of The Medical Society of Virginia and of the American Medical Association.

American Cancer Society, Richmond Unit.

Dr. Randolph H. Hoge has been elected president of this unit and Dr. Martin Markowitz a vice-president. Drs. William F. Reid, Peter N. Pastore and William R. Hill are among those elected to the executive committee.

Dr. Evan H. Ashby, Jr.,

Remington, has been appointed to the county board of supervisors of the Lee District. He has served as a member of the town council and became Mayor of Remington in 1958, which position he resigned when he became a member of the board of supervisors.

Dr. Green Honored.

Dr. W. T. Green, Nassawadox, has been honored by the Northampton-Accomack Memorial Hospital for his services to the Staff from 1928 to 1964. He was presented with a silver platter giving that information and the Staff's appreciation for his services. Dr. Green recently announced his retirement from active practice.

Dr. Peter N. Pastore,

Richmond, presented a report of progress in radiology to the convention of the American Roentgen Ray Society in Minneapolis, September 29-October 2. His was among

fifty such reports and was entitled The Laryngo-Pharyngogram as a Diagnostic Aid.

Needed.

General physician—family internist by four-man group in growing rural practice in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000 to \$18,000 depending on qualifications. Write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

G. P. Partner

Wanted to join two other general practitioners doing rural practice in Southwest Virginia. Hospital privileges in three hospitals and medical directors for a new nursing home. An opportunity to do a family practice in a beautiful community with a stable economy and with an income greater than the national average. Write #15, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

G. P. Associate

Wanted. Thirty-seven-year-old, white, well established general practitioner wanted young general practitioner as associate in city of Virginia. No obstetrics. Salary the first year, during trial period. New, large modern office. Write #10, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries

Dr. Augustine Warner Lewis, Sr.,

Aylett, died September 30th at the age of seventy-eight. He was a graduate of the Medical College of Virginia in 1912 and began his practice in his native counties following his graduation. Dr. Lewis was a member of the King and Queen Ruritan Club and was honored for his many years of medical service to that county in 1958. He had been a member of Arlington Lodge AF&AM for fifty-six years. Dr. Lewis was a past president of the Mid-Tidewater Medical Society and had been a member of The Medical Society of Virginia since 1947.

Two sons, Dr. A. W. Jr., of Aylett and Dr. Edward of Bowling Green and two daughters survive him.

Dr. Francis Fabian Nolan,

Norfolk, died September 26th. He was seventy-one years of age and a graduate in medicine of the University of Maryland in 1917. Dr. Nolan was a native of Portsmouth but had lived in Norfolk most of his life. He was a member of The Medical Society of Virginia, having joined in 1948.

A daughter and two brothers survive him.

Dr. Pinckney.

The time has come for us to say official farewell to one of our most distinguished colleagues, Dr. M. Morris Pinckney.

Because of his membership in an organization known as the Seven Society, the bells tolled in the University of Virginia Chapel at Charlottesville at the time of his funeral in Richmond. In the words of John Donne:

"No man is an island unto himself. Every man's death diminishes me, for I am involved in mankind. Therefore, send not to seek for whom the bell tolls, it tolls for thee."

His death of an unusual type of hepatic cancer is particularly difficult for us to accept. We were looking forward to his deft conduct of our affairs as presiding officer.

To us, to his patients, and to his other friends,

this man was first of all a gentleman. His courtly manners were a pleasure to all who had contact with him. His graceful presence evoked reminiscence of what the patrician doctor may have been in a bygone era of medical practice.

His sophistication and wit were primarily designed to give amusement. Yet he did not compromise with hypocrisy, mediocrity, stupidity or sham. He could be slashing when he spoke against socialized medicine, over specialization, medical commercialism, or pomposity in any situation. In this regard he did not always spare his friends and social companions.

As a physician, he had few peers in this community. His intelligence and training endowed him with qualifications as a diagnostician and therapist of the highest order. His interest in medicine and his continuing scholarship were remarkable. In an illness that he knew was terminal, when his eyes could no longer focus, he listened to auditory recordings of clinical reports from the Library of Stuart Circle Hospital.

A privileged few of us here knew him as a soldier during World War II. His humor, tact and social graces on the one hand—his disdain of Army brass and red tape on the other—were strong factors in moulding an esprit de corps that sustained the Medical College of Virginia unit, the 45th General Hospital, overseas. This personally significant and important military episode in his professional career was natural to him. His family had been leaders in the country's wars since the Revolution.

Dr. M. Morris Pinckney was born on November 18, 1905, the son of Charles Cotesworthy Pinckney and Elsie Morton Morris Pinckney. On his mother's side, he was a descendent of Dr. James Craik, of Alexandria, who attended George Washington. Dr. Pinckney was an alumnus of the Chamberlayne School (the predecessor of St. Christopher's). He graduated from Episcopal High School and achieved his B.A. and M.D. Degrees from the University of Virginia where he was a member of the Raven Society and St. Anthony Hall. He was elected to Phi Beta Kappa. After graduation from the University of Virginia School of Medicine, where he was elected to Alpha Omega Alpha, he interned at the Massachusetts General Hospital in Boston. On May 16, 1936, he was married to Louise Lippit Sinnickson of Philadelphia. She survives him and there are two sons and two daughters. He was a fellow of the American Medical Association, this Academy, The Medical Society of Virginia, a diplomate of the American Board of Internal Medicine and he was a founder and former officer of the Richmond Society of Internal

Medicine, a founder and first president of the Virginia Society of Internal Medicine, and a member of the Board of the Richmond Heart Association. He was a member of the Society of the Cincinnati of the State of South Carolina and a member of the Constantinian Society, formed of former chiefs of Medical Services in the Army Hospitals in the Mediterranean Theatre of War. He was awarded the Bronze Star for his outstanding military service.

With so much to be proud of, he was curiously modest and had humility without being humble.

This patrician, gentleman, soldier, physician—this critical antagonist of hypocrisy, this friend of ours, Mike Pinckney, has left us. The Academy as a professional, political and social body is less by consequence than it was before. Those of us who knew him personally now feel a sense of loneliness. The bell has tolled for us.

BE IT RESOLVED that the Richmond Academy of Medicine on this eighth day of September, 1964, express sympathy to the bereaved family and enter these remarks into the records of the Academy.

CARRINGTON WILLIAMS, SR., M.D.

ALEXANDER G. BROWN, III, M.D.

JAMES B. FUNKHOUSER, M.D.

Dr. Kupfer.

Henry Gershon Kupfer was born in Pinczow, Poland, July 15, 1909, received his early education in the local schools, and was graduated from the Gimnasium in Sandomierz, Poland, in 1928.

He received his medical degree at the Charles University in Prague, Czechoslovakia in 1935, and served his internship and residency at the City Hospital in Lodz, Poland, from 1936 to 1938. He was attending physician at the City Hospital in Rowne, Poland, from 1938 to 1941.

Although most of his family was exterminated, Dr. Kupfer miraculously survived the torments of World War II. After the war, he served with the United Nations Relief and Rehabilitation Organization as section chief in the United Nations Hospital in Berlin until 1946, when he emigrated to the United States.

Dr. Kupfer joined the staff of the Medical College of Virginia as assistant resident in the Department of Pathology in 1947 and was promoted to instruc-

tor in 1948. He was made assistant professor of clinical pathology in 1950 and associate professor in 1951, at which time he was also appointed director of the hospital laboratories. He became full professor of pathology in 1952 and was named chairman of the division of clinical pathology in 1956.

Dr. Kupfer published many papers in the field of clinical pathology and particularly in the fields of bleeding and coagulation, which were his special interest, and gained national and international recognition through his research and publications. He was a member of the American Society of Clinical Pathology, International Society of Hematology, American Medical Association, Richmond Academy of Medicine, The Medical Society of Virginia, American Association for Advancement of Science, Federation of American Societies for Experimental Biology—(Section of Experimental Pathology), College of American Pathologists, and was certified by the American Board of Pathology in clinical pathology and in hematology. In 1961 he was appointed to the National Committee for Teaching Clinical Pathology and served with distinction as chairman of a subcommittee of this group. He was a member of Temple Beth El, Richmond, and directed its education and civic affairs programs for a period of two years, during which time the membership of this group increased almost fourfold.

WHEREAS, Dr. Kupfer was beloved as a physician, teacher, and friend, during his seventeen years of association with the Medical College of Virginia, and provided devoted care to his patients, leadership and inspiration to his colleagues and his students, who will everlastingly memorialize his achievements.

NOW, THEREFORE, BE IT RESOLVED by the Richmond Academy of Medicine that this expression of gratitude for the contribution of Dr. Henry Gershon Kupfer be duly recorded in the permanent records of this Academy, and

BE IT FURTHER RESOLVED that a copy of this resolution be presented to the family of Dr. Kupfer with the profound sympathy of the members of the Richmond Academy of Medicine.

DR. HAROLD I. NEMUTH, *Chairman*

DR. SIMON RUSSI

DR. LYMAN G. FISHER

DR. NELSON YOUNG, *Honorary*

DR. MILES HENCH, *Honorary*

Guest Editorial

“Sorry, No Time” “See You Later”

A CHALLENGE was handed to me, or did I ask for it? I sometimes feel like I had subjective vertigo, yet, complete tranquillity, then, BOOM, the mercury starts to go up, thump, thump. Some days start with a feeling of amusement, even happy, as though I really had good sense. It all adds up to good days and bad days, but don't blame it on the weather.

We try our level best to get these “lovin’ creatures”, called doctors, to complete their patient's records. Of all the excuses—my goodness, I could name a hundred, but my favorites are, “SORRY, NO TIME” and “SEE YOU LATER” and then they will stand around in the corridors or even sit atop your desk and chat for an hour with their colleagues about such important things as fishing, golfing, and boating. Then, once in a while, a “brilliant” will come along simply ignoring your “plea for completion” and start telling you about this gallbladder, or that bulging colon that needed resecting. Then there is the comic, who rushes by the door saying, “Nice day outside”. Now who cares about weather when the file drawer is warped with weight from their incomplete records.

I grant you that this is quite an education and will be forever grateful to them for not completely ignoring me and including me in their conversations, but this does not complete my records that are screaming for signatures.

Most Medical Record Librarians, who love their work as I do, will knock themselves out for these creatures; I'm sure some of us would scrub floors for them if asked. Ours is a good profession, though a thankless job at times, and our feelings get furrowed more than enough, but we go on smiling, and live in fear of the little men that come around every three years and ask “How's your incomplete file?” “SORRY, NO TIME”—“SEE YOU LATER”

MARJORIE R. MILLETT

Seeing Ghosts

Some Diagnostic Conundrums

Unexplained but stimulating is the rare case of apparently hopeless malignancy that recovers completely without treatment.

BAYARD T. HORTON, M.D.
Rochester, Minnesota

"Are you having any stomach trouble?" I finally said.

"No," he replied, "I've forgotten all about that stomach trouble I had two years ago. It bothered me for six months and then completely disappeared. I came simply because of the poor circulation in my legs. This is my sixth visit to see you since 1936, when you told me I had occlusive arterial disease in my lower extremities. It seems to be slowly progressive, in spite of the good care I have taken of myself. I can only walk a block before pain [intermittent claudication] develops in my legs. My feet are very red when I am standing, and my nails hardly grow at all. Now I am having pain in my right big toe at night and when I first get up in the morning." And he added, "I do not want a general examination. I would like to return home today."

It was only 9 o'clock in the morning. He had not had breakfast. Could I wait until 1:30 p.m. to send him for roentgenologic examination of the stomach? No! So I called Dr. Byrl R. Kirklin, head of the Section of Diagnostic Roentgenology, and told him the story.

"Send him down immediately," said Dr. Kirklin, "I will examine him and call you back."

About 30 minutes later Dr. Kirklin called and said, "This man has a perfectly normal stomach. I would have called you sooner, but I have been reviewing the films of his stomach which we made on December 4, 1941. At that time he had an inoperable scirrhus carcinoma of the stomach of the linitis plastica type which involved almost the entire stomach." And he added, "I am amazed."

ON DECEMBER 5, 1941, I sent the man home to die. He had an inoperable cancer of the stomach. Roentgenologic examination had disclosed scirrhus carcinoma involving almost the entire organ. This confirmed the diagnosis, which had been made by the patient's home physician, a competent roentgenologist. Surgical exploration was not advised.

The patient was a frail, anemic-appearing, Russian Jew, 65 years old. He weighed only 108 pounds. Gastric symptoms or signs, such as a poor appetite and decreased gastric capacity, with occasional vomiting after eating, had been progressive for four to five weeks.

To my great amazement, this patient returned to see me two years later (December 3, 1943), looking hale and hearty and weighing 120 pounds. For a moment I thought I was seeing a ghost, despite the fact he was wearing flesh becoming of a man. Why had he come back? Ghosts sometimes do come back to haunt us, and it is well that they do. Hamlet learned much from his father's ghost. Wondering and pondering, I sat and looked at this patient. His presence seemed almost to haunt my office.

HORTON, BAYARD T., M.D., *Emeritus Staff Member, Mayo Clinic.*

So impressed was I with these remarkable findings that I made a summary of the case and put it in my wallet. I have carried it there all these years. Perhaps I was hoping that later I might encounter a similar instance, but I never did. Hence the reason for this report.

I have often wondered about the nature of this man's illness. Did he really have an extensive scirrhus carcinoma of the stomach? Certainly, one of the best-known roentgenologists of his day, Dr. Byrl R. Kirklin, said he did. So did another well-known roentgenologist, who had examined the patient before he came to the Mayo Clinic. But if this was so, what had caused the cancer to disappear spontaneously? Or had we made a mistake in our diagnosis? Did the patient have only some type of gastritis which mimicked perfectly the roentgenologic picture of extensive scirrhus carcinoma of the stomach? It is far more thought-provoking—not to mention reassuring—to believe that we did not make a mistake in our diagnosis than to think we did. Obviously, we shall never know. This patient died six months after he left the clinic in 1943. The cause of his death is unknown to me.

This patient left my office on December 3, 1943, for the last time. As I observed him walking slowly down the corridor, certain other interesting "cancer cases" came to mind. I thought of the man from California, who had been referred to me with the diagnosis of carcinoma of the stomach, made by a competent roentgenologist, a man who had been trained at the clinic. During roentgenoscopic examination the roentgenologist had observed a filling defect in the stomach which he interpreted as descriptive of a malignant lesion. Roentgenologic examination carried out at the clinic showed the stomach to be normal. The patient gave a history of frequent attacks of hives. Later, when he had an attack of hives, he also had a filling defect in the stomach—hives of the stomach. An allergic survey clarified the mystery.

I thought of the man from Alabama, who had been referred to me because of what was thought to be a hypernephroma of the right kidney. The diagnosis had been made by a competent urologist. I saw the patient in the early afternoon; and he wanted to be sent to the hospital to have the right kidney removed the next morning. When I explained to him that we would have to carry out a very careful investigation of his condition before I could recommend surgical treatment for him, he became agitated and even angry.

The situation was so unsatisfactory that I immediately called Dr. William F. Braasch, head of the Section of Urology, and Dr. E. Starr Judd, to see him. The patient had asked me to have Dr. Judd do the operation. Dr. Braasch and Dr. Judd frankly sustained the position I had taken and the patient agreed to the examinations proposed.

The next day an excretory urogram showed both kidneys to be perfectly normal. A retrograde pyelogram of the right kidney showed it to be completely normal. The patient returned home with his right kidney intact.*

Finally, I recalled a woman from Canada who had come to the clinic to undergo nephrectomy because it had been judged that an epithelioma had developed in the pelvis of the left kidney. She brought pyelograms with her to prove the diagnosis and they did. But when we repeated the same studies, we found the kidney to be normal. Excretory urograms gave negative results and so did the left retrograde pyelogram. She returned home, happy, without an operation.

Medicine has romantic aspects of its own,

*Dr. Braasch recalls a woman who had a palpable mass extending beneath the left costal margin. He made a diagnosis of hypernephroma. Dr. C. H. Mayo explored the left renal area and confirmed the diagnosis but thought the condition was inoperable. Approximately 8 years later the patient returned to see Dr. Braasch. He was greatly surprised to find that the palpable mass had disappeared. An excretory urogram showed the left kidney to be functioning and in good condition.

manifested in many different ways and in many different fields. Seeing ghosts is one of them.

In writing about the University of Virginia (which happens to be my old school), which he founded, Thomas Jefferson said, "This institution will be based on the illimitable freedom of the human mind. For here

we are not afraid to follow truth wherever it may lead, nor to tolerate any error so long as reason is left free to combat it."

Are these thoughts not equally true of all great institutions?

*Mayo Clinic
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Recreation

Setting time aside for wholesome recreation is becoming increasingly important in leading a healthful and productive life. For most people, the day's routine no longer includes vigorous physical activity or provides enough variety otherwise to break the monotony of daily living. The natural result of modern conveniences and increased automation is a sedentary existence.

Modern society has become what someone has called "flip-flopped". The executive now works long hours instead of the laborer. Yet, like everyone else, physicians, executives, and other professional people need the refreshment that enjoyable recreation offers.

Leisure time can be used to regain a healthy balance of suitable physical activity and relaxation. Whether through a trip to the opera or an hour or two of quiet fishing, the ability to "lose oneself" in some diversional recreation provides personal fulfillment and relief from life's tensions.

Recreation is personal; to be satisfying, the hobbies and other activities chosen should be meaningful to the individual. What may be enjoyable to one person may be boring to another. Interesting family activities, another important but often missing part of modern life, can evolve from personal recreation interests.

Whatever a person may choose as hobbies, some physical recreation should be included daily. The health benefits from

regular suitable physical activity such as weight control, relief from stress, and a sense of well-being are now well established. On the other hand, the potential ill-effects of prolonged inactivity, such as obesity, metabolic disorders, loss of movement capacity, cannot be considered helpful for enjoyable living.

The broad benefits attributed to recreation are not automatic outcomes. Every activity carries some risk, whether from the nature of the activity itself or from the demands on the participant. One national survey showed 18,000 disabling golf injuries in 1962. Most of these were persons struck by golf balls. However, heat prostration accounted for 10 per cent and over-exertion another 7 per cent of the total. These statistics should not cause a rush to the golf cart, which produced 7 per cent of the casualties. Rather, golfers should respect the safeguards that judgment and conditioning will offer.

To capitalize on recreational opportunities: (1) Learn your capabilities and limitations through periodic medical examinations, and plan your activities accordingly. (2) Practice habits of healthful living faithfully in order to have the ability to do effectively the things you must and want to do. (3) Understand the risks involved in your activities of choice, and the preventive measures to be followed.

The Challenge of Tuberculosis Today

ROSS L. McLEAN, M.D.
Atlanta, Georgia

Eradication of tuberculosis may now be possible. Are we to lose this opportunity through apathy?

THE CHALLENGE of tuberculosis today must inevitably mean different things to different countries, states, counties and various workers. To be usefully and productively involved in the fight against tuberculosis you must find that part of the unmet challenge which applies to you and your area of concern or responsibility. I cannot do this for you, but I would like to hold some parts of the picture up to our joint scrutiny so that you can select and discuss those aspects which apply to them.

First, if we look at tuberculosis on a global basis, we can find only a partially met challenge. Tuberculosis is a disease which is deeply embedded in most of the races of mankind, particularly where they are crowded together. For much of the world, adequate treatment facilities are in short supply. There, the challenge is to supply these facilities.

In this country, treatment facilities are not generally in short supply, and where they may be in short supply there should be no great difficulty in creating them. Perhaps one of our unmet problems is the co-ordination and organization of country-wide coherent programs to render service of greater quantity and more uniform quality.

Presented to the Annual Meeting of the Virginia Tuberculosis and Respiratory Disease Association, Hotel Roanoke, Roanoke, March 25, 1964.

McLEAN, ROSS L., M.D., *Associate Professor of Medicine, Department of Internal Medicine, Emory University School of Medicine.*

No one should doubt that we possess the resources to render uniformly excellent treatment on a national scale, if we choose to do so.

Turning away from global issues and toward our national situation, we find ourselves at a point in the decline of death rates and new case rates which suggests we may have come close to exhausting the dramatic benefits of a highly effective form of treatment, namely, chemotherapy. Death rates and new case rates have leveled off at new low levels, meaning that hoped-for control leading to eradication has been advanced in time. However, new cases are still occurring at the rate of more than 50,000 per year. This treatment program has not yet been adequate to the annual task at hand—which does not take into account relapsed cases.

We must try to remember that each year's new case load does not represent recent transmission of infection to new cases. It largely represents the manifestation of active disease in persons who acquired their infection from a few to many years before . . . perhaps 20-30 years or more.

One of our most pressing challenges is to render each of these 50,000 or more cases each year promptly and permanently non-infectious so that it will never again be a source of infection. We know now that this is within the bounds of reason—probably up to a 95% success rate in original treatment patients who complete a full course of recommended therapy.

Your challenge is how many of your new cases can you bring through to the end of a full course, perhaps two years, of continuous, uninterrupted original chemotherapy? I believe that the drugs are actually better than the people who give them, the people who provide the important ancillary

services, and the patients who must have sufficient responsible regard for their own welfare to take the drugs and comply with the requirements of treatment. Given adequate resources in terms of hospital care, public health programs, volunteer assistance, etc., do we and our patients possess the human resources to utilize our opportunity for treatment and recovery to full advantage? Until we are largely successful in doing so, our dreams of firm control leading to eradication of tuberculosis are largely fatuous. You must decide for yourself.

The Arden House Conference of a few years ago pointed out that we possess the tools to accomplish control leading to elimination. It indicated a sense of urgency, in that the emergence of drug-resistant strains is biologically likely unless transmission is rapidly reduced to the dwindling point. It is too early yet to determine whether primary drug resistance in previously untreated cases will prove to be a serious problem. Most of those primarily infected with drug resistant tubercle bacilli have not yet had time to develop clinically manifest disease. But the sense of urgency remains. We cannot afford to lag, because the biological probability of the emergence of drug resistant strains is reliably attested to by experience in other diseases, such as malaria and staphylococcal infection; by early experience in tuberculosis; and the sober warnings of many distinguished microbiologists and epidemiologists.

Once treatment facilities are being optimally developed and utilized, then the next step on the road to eradication may be taken—that is the improvement and extension of tuberculosis detection and case finding activities. Except for institutionalized persons, such as inmates of hospitals and jails, mass x-ray screening as a case-finding tool has had its day. X-ray diagnosis should now be confined largely to the tuberculin positive population, or those already known to have abnormal films.

Today we should detect tuberculosis infection by carefully planned tuberculin skin test surveys. This will delineate the high risk population, which is to be closely followed, or as the case may be, given prophylactic chemotherapy. The evidence is now strong that the most fruitful sources of new active cases are:

1. The immediate contacts of new active cases.
2. The tuberculin positive population.
3. The immediate contacts of tuberculin positive children.

When registries can be set up to maintain surveillance on these categories, more cases will be found earlier and their period of infectivity reduced. It is this blocking of transmission by the treatment of the infectious case and/or by the prophylactic treatment of persons at highest risk, that will break the chain of infection, achieve control and lead on to eradication.

The mobilization of funds, skills, personnel and equipment to accomplish these ends is an enormous task. Without the will to do it, it is impossible. We may be on the verge of defeat by our own apathy in the midst of glowing successes in the fight against tuberculosis. Are we stalling? Will we lose this war after having won a few battles?

How badly do you, here in Virginia, really want to do this job? I believe that effective control is merely a matter of the determination to use the tools now available and to develop the skills to use these tools; but this can only be accomplished by a comprehensive, coordinated, state-wide plan to evaluate particular needs, establish priorities and timetables, and mobilize resources. Have you started? How far ahead are you looking? Where will you begin?

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Wolff-Parkinson-White (Pre-Excitation) Syndrome Simulating Posterior Infarction

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The use of the electrocardiogram as a routine diagnostic office procedure by those not trained in its interpretation often leads to confusion. An example of this is given here.

A 42-YEAR-OLD WHITE MALE was referred for a cardiovascular consultative evaluation because of vague symptomatology and electrocardiographic abnormality, presumably reflecting evidence of diaphragmatic infarction of indeterminate age. Past medical history revealed that this individual has for many years experienced vague episodes characterized by palpitation, weakness, diaphoresis, and severe anxiety. These "attacks" varied in duration and often would subside as quickly as they started.

The patient denied ever having had rheumatic fever, scarlet fever, hypertension, severe respiratory disease or other serious illness. A review of systems, except as presented in the history, was negative. Physical examination revealed no evidence of cardiovascular or pulmonary abnormality. A large PA film of the chest was essentially normal, as were other routine laboratory tests.

An electrocardiogram (Fig. 1) revealed a normal sinus rhythm. Prominent Q waves were noted in leads 2, 3, and AVF, associated

with a short P-R interval. In some leads the initial component of the QRS complex was slurred. No ischemic abnormality was manifest, and the tracing was otherwise not remarkable.

INTERPRETATION: Wolff-Parkinson-White or Pre-excitation Syndrome.

Discussion

Failure to recognize the Wolff-Parkinson-White Syndrome is still common.¹ This electrocardiographic syndrome consists of a short P-R interval, associated with prolongation of the QRS interval. The QRS interval is prolonged by a small deflection immediately preceding the complex, known as the "delta wave". This delta wave is due to premature activation of ventricular tissue by an impulse traversing an anomalous pathway.² It is heavily slurred and of small amplitude.

The electrical forces producing the delta wave not infrequently cause "Q waves" indistinguishable from infarction in various leads. Usually, the delta wave vector is directed anteriorly. When the delta force is directed markedly towards the left, the delta waves in leads 2, 3, and AVF will be Q waves. Under the circumstances, such a tracing looks like a diaphragmatic or posterior infarction.³ Such was the tracing in the case described above.

The pre-excitation syndrome does not necessarily reflect organic heart disease. Actually, no distinctive clinical picture is associated with it. But, the majority of the patients with this electrocardiographic syndrome experience episodes of paroxysmal tachycardia; usually, supra-ventricular in origin, but occasionally ventricular. During

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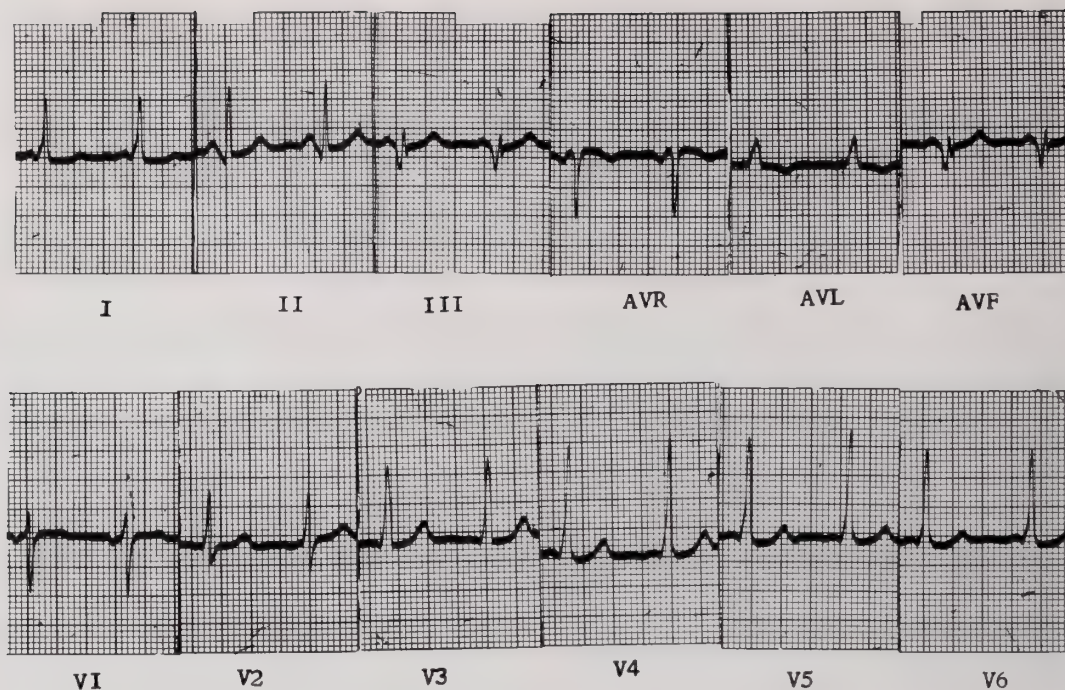


Fig. 1

the paroxysms of tachycardia, the delta wave may be absent only to return after normal sinus rhythm has returned. These episodes often subside as quickly as they have onset. However, some patients suffer extreme disability because of recurrent attacks of tachycardia with associated incapacitating symptoms. The usual drugs generally suffice in the treatment of the acute paroxysm of arrhythmia. Quite recently, the use of external electric countershock proved efficacious in terminating an acute paroxysm of supra-ventricular tachycardia complicating the Wolff-Parkinson-White syndrome.⁴ No treatment is required in this

syndrome in the presence of normal sinus rhythm or if attacks are infrequent.

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The Patient, Who Is He?

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The mentally ill patient needs help while in the hospital and he also needs understanding, sympathetic help after returning to his home community.

THIS SUBJECT is very interesting, because what you are about to learn is quite different from what you know about a patient in a general hospital. At one time or the other, during our life, one may have been hospitalized in a general hospital for some reason. The entry to the hospital or exit from it may go unnoticed, or it may be accepted as part of routine in our life. We accept the fact that this human machinery sometimes gets rusty, needs repairs, or check-ups. This philosophy is applicable only to the part of physical illness. But, what about the emotional illness? So far we have not learned to accept the fact that emotional illness is also a part of living. If one is sitting in a group and becomes conscious that he is sitting next to a person who has recently been released from a mental institution, he becomes uncomfortable and anxious. He even hates himself for occupying the chair next to this "ex-mental patient". Or if in a group, one person boldly says that he was a patient in a mental hospital, it brings about strange reactions amongst the members of the group. The conversation will come to a stop. People will look at each

other's faces and find themselves at a loss for proper words to continue the conversation.

The question is why? Of course, the question is simple, but the answer is not. But let's try to search for the appropriate answer. Is it due to the lack of knowledge about mental illness? Is it due to lack of sophistication to accept the fact that emotional illness is also part of living, just like physical illness? Or, is it due to unfounded fears that we have inherited from the past, that mental illness is such a horrible or incurable thing? People look down on someone who is considered mentally ill. They show their contempt and their alarming reactions. But let us remember that mental illness is a disease, not a crime; therefore, they should be treated with respect, dignity and tender loving care.

To bring you closer to the understanding of the patients in a mental hospital, I have selected the title, "The Patient, Who Is He?" This is our way of saying, let's find out more about the person who has been brought to a mental hospital for treatment. It is immaterial whether he came of his own free will, was persuaded by his family, or that he was "railroaded". We assume that at the time of his entry, the patient is suffering from emotional problems, that these problems could not be adequately handled in the community. In an attempt to face these problems or resolve them, he shows evidence of emotional stress and strain. This stress we see as the symptom of "mental illness", lay people like to call "nervous breakdown". Sometimes they use vague, unmeaningful terms such as, "He is crazy", "He is nuts", or "He is off his rocker". But in actuality, mental illness is nothing but emotional problems of every day life, which an average

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This is the text of the lecture given on October 17, 1963, to a group of volunteers from State College of Virginia.

person can handle without showing any evidence of strain. This evidence of strain is what interferes with proper functioning of human beings. A man with emotional problems becomes anxious and irritable. He develops interpersonal difficulties with the members of his family, or even the people he works with. Gradually, he becomes suspicious and hostile towards others. He uses all psychological defenses to ward off his anxieties. Some people are unable to handle their anxiety and become extremely fearful. They withdraw from their environments. Some people, considering this as their defeat in life, become depressed and even suicidal. Some people develop multiple body complaints, what is known as a "hypochondriac". Once their symptoms appear, it becomes increasingly difficult for an individual to make a satisfactory adjustment in life. Some people recognize that there is something wrong with them, and they need help. Some people continue to deny their emotional problems, and try to fight their way out. For any person who comes to a mental hospital, is an average God-fearing, self-respecting human being, and is in need of help, it is our duty to do all we can to restore him to normal, so that he can return to the community as a useful member. By "we" I do not mean only the professional people in the hospital. I am also referring to how he is going to be received by his family and the community. Are they helping him to make a proper adjustment, or are they making him uncomfortable because of their own anxiety or ignorance as to how they should react to him? This is a two-way street.

We have to recognize that it is not only stressful for a person to be admitted to a mental hospital, but that it is equally stressful for him when he returns home. He wonders how people are going to react to him on his return; will they accept or reject him? Once the patient is admitted to the hospital, the attendants bathe him and put a clean hospital gown on him. The medical officer on duty carefully evaluates his phys-

ical and emotional condition. Then he is taken to the receiving ward. The next morning he is seen in "admission staff conference", where the Chief of Service, with his team of doctors, social worker, psychologist and the ward attendant, interviews the patient. A doctor is then assigned to this case and treatment is prescribed. The doctor, in charge of this case, holds periodical consultations with his chief to evaluate the progress of this case. All patients are visited by the hospital chaplains. The patients frequently make better contact with the chaplain as they are fearful of the doctors, nurses and attendants, who have to give them pills or other medicines, or ask questions. The patient may become anxious about his new and strange surroundings. He may feel that he is behind locked doors with mental patients around him. At times, he denies his own emotional problems or the need for any help. As time goes on, he may adjust to his surroundings, make some friends on the ward, and even begin to confide in his doctors and nurses. He even gains some insight into his condition and recognizes the need of this help. Some patients soon admit that they were mentally ill, but now they are well and must leave the hospital. This is what we call "flight into health". We have trained personnel in our hospital, who have learned how to be patient, understanding and sympathetic with the people who have emotional problems and are in need of help. As the patient's condition improves, he is moved from the receiving ward then to the Intensive Treatment Unit, and then from there to an open ward. Here the patient has privileges of the grounds and, for therapeutic purposes, he works in various sections of the hospital under the management of industrial therapy. The patients also participate in organized activities of occupational and recreational therapy. During his hospitalization we establish contact with his family, either directly or through our trained social workers, and make plans for his future. We also make sure that the family is adequately informed about his condition. They are

briefed on how they should react to the patient, what their obligations are, and that they must be especially careful not to give any feelings to the patient that he "has just come out of a mental hospital". In some cases, when patients do not have families to return to, or for some reason cannot return to their families, our social service department attempts to place them in various family care situations, to help them stand on their own two feet.

During the past few years network of after-care clinics have been organized all over the State of Virginia, which work in cooperation with the local mental health clinic. Here, the patients, who have left the hospital on furlough, are regularly seen by

the physicians and social workers. All efforts are made to work with the patients and to help them make satisfactory adjustment. At times, even they are assisted in getting gainful employment. Even their families are seen periodically to keep their interpersonal difficulties to a minimum. But in order that the patient be able to stay out of the hospital, it is the joint responsibility of the professional team in the hospital to help him recover from his emotional condition, and the responsibility of the family and the community to receive him, help him make an adjustment in his old surroundings, and let him stay well emotionally.

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Correspondence

The Pill.

To the Editor:

The surge to the use of "The PILL" becomes disturbing. Strenuous salesmanship, gratuitous samples and public demand affect even the stock market, are all contributing factors. Teen-agers are using "The PILL" to "regulate menses"!

This interference with basic physiology has resulted, increasingly, in ovarian cystosis, the typical serpiginous hypertrophic endocrine cervicitis, fluid retention, and hemorrhage in vascular susceptibles. "An increase in the spontaneous fibrinolytic activity of plasma euglobulins" is reported in the Jour-

nal of the American Medical Association.* Lay news magazines are referring to "The PILL" as primitive and not the last word. Pharmacutists are lessening the dosage and "improving" it.

Therefore, until we know more about "The PILL", a brake upon its use would seem to be in order.

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* P. Brakman and T. Astrup: Effects of Female Hormones, Used as Oral Contraceptives, on the Fibrinolytic System in the Blood. *Lancet* 2:10 (July 4) 1964. Abstracted in the *Journal of the American Medical Association* 189: 8, August 24, 1964, p. 157.

Mental Health....

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Cold Probe Used to Destroy Pituitary Tissue

A freezing technique has been used for the surgical destruction of pituitary tissue in 19 patients suffering various disorders, it has been reported in the July 27th Journal of the American Medical Association. Use of the cold probe was described by Drs. Robert W. Rand, Alfred M. Dashe, Donald E. Paglia, Louis W. Conway and David H. Solomon, Los Angeles.

A small vacuum-type tube, cooled to a temperature of from -170 to -184 degrees Centigrade by a liquid-nitrogen system, is inserted through the side of the head into the desired region of the pituitary gland. The temperature is reduced slowly to the minimum level and maintained for 10 to 15 minutes. During the procedure, the function of nerves which might be affected are tested every few seconds.

A surgical technique which can be performed with a minimum of risk is needed to treat patients with conditions requiring destruction of all or part of the pituitary gland. Currently employed techniques have certain drawbacks and complications.

Of the 19 patients, 13 had disseminated breast cancer. The response of these patients, "seems at this early date to be com-

parable to other modes of pituitary ablation, but accurate statistical evaluation must await a larger group of patients."

Of particular interest was the improvement following the procedure in one patient with acromegaly, a disease caused by overfunction of the pituitary which is characterized by enlargement of the bones and soft parts of the hands, feet and face. In six weeks, there was marked reduction of the patient's headaches and swelling as well as striking improvement of her facial appearance.

No conclusions could be drawn concerning the results of the procedure in the remaining patients, four of whom had diabetic retinopathy, an eye condition which can be alleviated by pituitary destruction, and one with Cushing's disease, a syndrome resulting from overgrowth of certain pituitary cells.

The five physicians were affiliated with the departments of surgery, medicine and pathology, University of California, Los Angeles, School of Medicine, at the time of the study. Dr. Conway is now at Medical College of Virginia, Richmond.

Serum Lipids in the Diagnosis of Atherosclerosis

At the present time it is generally accepted that increased serum lipid concentrations are related to the pathogenesis of atherosclerosis in man. The evidence, epidemiological, experimental and clinical, is statistical—no absolute proof exists that any one or a combination of serum lipid fractions can be held responsible as the actual cause of this vascular disorder. Nevertheless, in the light of present knowledge, the estimation of serum lipid concentrations in certain individuals may prove useful in trying to discover patients highly susceptible to atherosclerosis. Furthermore, the rationale for the use of such laboratory aids is also based on the hopeful and theoretical supposition that atherosclerosis is reversible and therefore possibly preventable. Such reversibility has been observed in animals subjected to experimentally induced atherosclerosis.

Whatever hypothesis etiologically links elevated serum lipid levels with the development of atherosclerosis—be it (a) lipid inhibition by the arterial intima from the plasma, (b) defect in lipid absorption, transport and/or excretion, (c) increased blood coagulability, (d) inhibition of fibrinolytic activity, (e) decreased heparin and lipoprotein lipase activity, or (f) abnormal lipid synthesis or utilization—the determination of certain serum lipid fraction estimation may prove to be of diagnostic and prognostic value in selected cases.

From a practical aspect, it is felt that the incidence of atherosclerosis and its sequelae is increased in individuals who have (1) hypercholesterolemia, (2) hypercholesterolemia and hypertriglyceridemia and (3) hypertriglyceridemia with hypercholesterolemia. In this first group, serum triglyceride levels are normal but the β -lipoprotein concentration is high. These lipoproteins are significantly found to be elevated in patients hav-

ing coronary artery disease when compared with controls. Perhaps the important etiological factor in these cases, i.e., hypercholesterolemia and normal triglyceridemia, is that of genetic control.

The second group in which hypercholesterolemia with hypertriglyceridemia are found is often associated with abnormal carbohydrate metabolism as seen for example in diabetes mellitus or even in "prediabetic" states. With the strong correlation between diabetes mellitus and the development of atherosclerosis, the determination of serum cholesterol and triglyceride levels in patients with diabetes mellitus, family histories of diabetes mellitus or even low glucose-tolerance, may be of diagnostic and prognostic value.

The third group, considered to be most common, i.e., hypertriglyceridemia with hypercholesterolemia, is often associated with excessive caloric intake, but can also be brought about, it is believed, by diets rich in carbohydrates. It should be noted that hypertriglyceridemia with hypercholesterolemia has been described in individuals on high fat diets, and has been found to be neither fat nor carbohydrate induced in some cases. There is a type described attributed to high ethyl alcohol consumption.

Thus from the above brief considerations certain dietary modifications may help to lower elevated serum cholesterol and triglyceride levels where applicable. Briefly, in the states associated with high caloric intakes and for high carbohydrate moieties in the diet, reduction or rather substitution of excessive carbohydrate with a fat rich in polyunsaturated fatty acids is advisable. In those states characterized by abnormal glucose tolerance, the diagnosis of any endocrine or liver disorder must be made and proper therapy instituted. In all cases it is also recommended that the prevention and control of obesity be carried out as well.

The laboratory aids which are perhaps most useful in screening susceptible patients are (1) serum cholesterol and (2) serum triglyceride determinations. Although normal serum cholesterol ranges from 140-260 mg%, it is difficult to set a normal figure for triglyceride concentration. Generally patients having coronary artery disease appear to have levels in excess of 160 mg%. There is opinion which feels that neither serum cholesterol nor triglyceride alone provides good enough information. Both estimations are indicated since patients with atherosclerosis usually have one of the following findings:

1. increased triglyceride with normal cholesterol concentrations
2. increased cholesterol with normal triglyceride and
3. increased cholesterol and triglycerides

Other laboratory aids such as determining

serum cholesterol: phospholipid ratios should be considered beyond any degree of usefulness. Also, the ultracentrifugal analysis of serum lipids, though a powerful research tool and of interest in individual cases, is impractical for routine screening of coronary susceptibles.

Finally, tests correlating serum lipid changes with effects on blood coagulability and fibrinolytic activity have yet to be established for routine clinical use.

REFERENCES

- Atherosclerosis-Mechanisms as a guide to prevention by Campbell Moses. Published by Lea and Febiger, 1963.
Pollack, Herbert: The Genesis of Atherosclerosis. Bull. New York Acad. Med. 40: 204, 1964.

LIONEL RABIN, M.D.

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"Negative Placebo Responses"?

We observe that medicinals have an effect regardless of the composition of the substances contained within them. And further, we know that the placebo effect is not always favorable in terms of therapeutic response. It is my conviction, as I have suggested earlier, that many of the "side effects" ascribed to various medications are, in fact, what can be called "negative placebo responses". It is not at all rare, for example, to observe adverse reactions following the administration of drugs—reactions which have nothing whatsoever to do with the pharmacological properties of the drug, but very much to do with the psychological factors which neither patient nor doctor nor nurse are very much aware. One of the most amazing events in medical practice is to observe a "side effect" from nothing more potent than a sterile hypo, or even from nothing more pharmacological than a venipuncture.—Gordon R. Forrer, M.D., in *Michigan Medicine*, 63: 8 (August) 1964.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Eastern Shore Migrant Labor Health Project

The migratory agricultural laborer is receiving increasing public and private attention. There is growing interest in, and concern for, the varied and complex health problems associated with these individuals whose lives are characterized by perennial movement.

In order to improve the health status and living conditions of the migrant laborers on the Eastern shore of Virginia, a special project is being conducted by the Accomack-Northampton Health Department. This project is staffed by doctors, nurses, sanitarians, nurses' aides, technicians and sanitarians' aides. They are seeking to determine the health needs of the migrants and to develop services to cope with these needs.

To formulate a program to meet the health needs of migrants realistically in Accomack and Northampton Counties it was necessary to base the program on current needs and not on impressions formed through the years.

The chief method used in this assessment was a survey of the health status of the migrants themselves. This survey attempted, with as great accuracy as possible, to determine the problems the migratory worker experiences in meeting his health needs.

Survey Results

About 16 per cent of the adult workers indicated sickness during the two weeks just prior to the survey. More than two-thirds of the conditions were of a strictly acute nature.

Even though 42 per cent of those indicating sickness during the past two weeks

were ill for two weeks or more from the conditions, only about 26 per cent lost as much as one week or more from work. Some stated they had been ill for several months but had not lost any time from work. Approximately one-half of those who were sick had seen a physician.

The most frequently mentioned complaints and in the order mentioned were tooth trouble, stomach upset, eye trouble, frequent headaches, repeated trouble with back, arthritis or rheumatism, high blood pressure, asthma—wheezing, mental or nervous trouble, sinus trouble, and worms.

While 24 per cent of the females 14 years of age and over stated they had no living children, about 36 per cent stated they had 4 or more children. The majority of the mothers had at least one child delivered in the home, usually by someone other than a physician. On the other hand, all births to more than 25 per cent of the mothers occurred in a hospital. Prenatal care was received by 78 per cent of the females having living children.

The number of fetal deaths was not disproportionately high and about one-third of the fetal deaths had been delivered in a hospital. Slightly more than half of the women with fetal deaths stated that prenatal care had been received.

Accidents

Seventeen per cent of the migrants surveyed indicated that they had had an accident within the past 12 months. While nearly 19 per cent of the Negroes gave accident histories, less than 8 per cent of the non-Negroes indicated an accident during the year.

The most frequent factors in the causes

of accidents were knife, falls, motor vehicles, and struck by moving objects.

Hospitalization was not required in the great majority of the cases.

Only 17 per cent of the persons surveyed had ever needed medical care when such care could not be obtained. A larger per cent of the Negroes reported that they were unable to get medical attention than were non-Negroes. By and large the reason the laborers gave for not obtaining medical care was "unable to pay".

Survey of Community Resources

In addition to the survey of the health status of the migrant laborer, a survey was made of the community resources available to aid in a health program. These resources may be divided into five general categories:

- 1. Official agencies: local, state, federal;
- 2. Voluntary health agencies: local, state;
- 3. Private medical care sources;
- 4. Civic organizations, and
- 5. Religious organizations.

The ability of each of these resources to contribute to a migrant health project was evaluated and will be utilized as the project develops.

Upon completion of surveys of the health status of the migrants, the community resources available, and their general way of life, it was concluded that to improve medical services to the migrant laborer certain factors must be taken into consideration: (1) Health services must be readily available to the migrant during non-work hours and

at locations that preclude transportation being a difficulty; (2) they must be available at a cost the migrant can afford, and at no cost if such cannot be afforded; and (3) they must be of a general nature that can meet the majority of health problems occurring in the migrant population.

As a step toward achieving the above, a mobile clinic offering general medical and preventive service was placed in operation in Accomack and Northampton Counties during the 1964 migrant season.

In principle, the clinic functions as a general practioner's office. Patients are seen on an individual basis and specialty clinics, as such, are held at the discretion of the clinic director.

With these services available and used by the migrants, the general health of this group should be improved, resulting in decreases in time lost from work, in severity of disease, and in hospitalization.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Oct. 1964	Oct. 1963	Jan.- Oct. 1964	Jan.- Oct. 1963
Brucellosis	1	12	17	9
Diphtheria	0	0	0	0
Hepatitis	47	54	478	723
Measles	41	110	13201	8163
Meningococcal Infections	8	8	53	78
Meningitis (Aseptic)	8	2	18	27
Poliomyelitis	0	12	0	18
Rabies (In Animals)	26	27	281	188
Rocky Mt. Spotted Fever	0	2	34	36
Streptococcal Infections	713	552	8879	7706
Tularemia	1	0	6	7
Typhoid Fever	0	0	12	8

The Medical Society of Virginia . . .

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. Richard E. Palmer, President, at 9:30 A.M. on Sunday, October 11, 1964, at Norfolk's Golden Triangle. Attending were: Dr. McLemore Birdsong, Dr. Fletcher J. Wright, Jr., Dr. John A. Martin, Dr. Kinloch Nelson, Dr. F. Ashton Carmines, Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. N. Thompson, Dr. Alexander McCausland, Dr. Dennis P. McCarty, Dr. James G. Willis, Dr. W. W. Walton and Dr. Michael A. Puzak. Also in attendance were: Dr. Harry J. Warthen, Editor, Virginia Medical Monthly; Dr. J. A. White, 2nd Vice-President; Dr. Thomas S. Edwards, 3rd Vice-President; Dr. W. Callier Salley, Vice-Speaker of the House; Dr. Vincent W. Archer, Dr. Allen Barker and Dr. W. Linwood Ball, Delegates to the American Medical Association; and Dr. Russell M. Cox, Secretary-Treasurer of the Board of Medical Examiners.

Special guests were Dr. James D. Hagood, Past-President of The Medical Society of Virginia and Chairman of the Legislative Committee, and Mr. Richard Nelson, Field Representative of the American Medical Association.

Dr. Walter Porter presented the report of the Finance Committee—including the proposed budget for fiscal 1964-65. It was pointed out that the Society's financial position is sound and that it operated well within its budget during the past year.

The budget, which will be found in its entirety in the minutes of the Second Session of the House of Delegates, was amended on a motion by Dr. Finch to add \$250 to help defray the cost of maternal death studies. Another motion was adopted to increase a special appropriation for VaMPAC to \$3,500.

Dr. Porter called attention to an item of \$500 earmarked for the First State Congress on Mental Health, which will be held in Alexandria in February, 1965. The Mental Health Committee had recommended that the Society both endorse the Congress and support it financially. Council was unanimous in its opinion that this would be money well spent and agreed that the proposed Congress should have Society endorsement and support.

Dr. Shelton Horsley then reported the results of a meeting on continuation education recently held in Charlottesville. He requested that Council arrange for the appointment of a special committee, and that

this committee include representatives from both medical schools. The committee would guide The Medical Society of Virginia on matters pertaining to continuation education. Dr. Horsley also recommended that The Medical Society of Virginia agree to serve as a clearing house for continuation education programs over the State. In this way, scheduling conflicts could be avoided and all interested parties would have a central reference source. *A motion by Dr. McCarty that Dr. Horsley's recommendation be endorsed was seconded and adopted.*

Council was advised that the American Medical Association had launched a massive educational program designed to inform the public of the broad range of health care now available to those over age sixty-five who cannot pay for it. All state medical societies had been asked to cooperate in a number of ways—one being to arrange for the publication of specially prepared ads in daily and weekly newspapers. It was learned that, although two state societies had voiced opposition to the advertising phase of the program, most other societies were giving full cooperation.

There followed considerable discussion during which it was brought out that Virginia seemed to be in a favorable position as far as King-Anderson was concerned, and that such an advertising program seemed to represent a departure from Virginia custom. There were others, however, who believed that many people, including physicians, had little knowledge of the Kerr-Mills Program, and that the proposed advertising would do a great deal of good. It was learned that the advertising program had been approved by many Congressmen, and there was little need to worry in this respect. Everyone agreed that a good educational program at the gross roots level was needed more than anything else at the present time.

Dr. Puzak offered a resolution calling for a special committee to be appointed to study and modify the AMA prepared ads for State use. The motion was seconded and adopted.

The President then asked Dr. Hagood to serve as Chairman of the special committee, and appointed Dr. Edwards and Dr. Wright to work with him. The committee was requested to meet with Mr. Nelson and devise an ad acceptable to everyone.

It was recalled that, during its meeting in February, Council directed the Executive Secretary to obtain a copy of the Washington State Medical Dis-

disciplinary Act. This particular Act gives physicians control of the state police power where disciplinary matters are concerned. All licensed physicians in the state have the privilege of nominating and electing their own Disciplinary Board members.

It was moved by Dr. Thompson that the Washington Disciplinary Act be referred to the Executive Committee for further study and such action as it might feel necessary. The motion was seconded and adopted.

Dr. Cox was then asked to report the recommendations of his special committee appointed to recommend changes in the Charter of the Norfolk County Medical Society. These changes had been requested by the Norfolk County Society as a result of a merger of several political subdivisions in its area. Dr. Cox stated that the committee had met with representatives of both the Norfolk County Medical Society and Portsmouth Academy of Medicine, and the following joint resolution had been prepared for Council's consideration:

"Believing that it is in the best interest of the Norfolk County Medical Society and the Portsmouth Academy of Medicine that the boundaries of the two Societies be specifically defined and brought up to date, we are submitting this resolution for the approval by Council of The Medical Society of Virginia.

It is the desire and recommendation of representatives of the two Societies that:

1. The boundary of the Norfolk County Medical Society include the City of Norfolk and that portion of the City of Chesapeake lying East of the Southern Branch of the Elizabeth River; and
2. The boundary of the Portsmouth Academy of Medicine include the City of Portsmouth and that portion of the City of Chesapeake lying West of the Southern Branch of the Elizabeth River."

A motion was introduced by Dr. Walton approving the resolution. The motion was seconded and adopted.

Council was advised that for many years the Society has granted free exhibit space to Blue Cross-Blue Shield. At the same time, those commercial companies underwriting Society group plans have been charged for commercial exhibit space. There was some question as to whether the same policy should apply to both. *A motion by Dr. Birdsong to take no action at this time was seconded and adopted.*

Considered next was a proposal that Society dues statements for 1965 also list dues for VaMPAC. It was pointed out that several state societies have obtained additional PAC members by following this

procedure. Emphasized was the fact that PAC dues are completely voluntary. The thought was expressed that perhaps it would be best if separate statements were used. There was some fear that The Medical Society of Virginia and VaMPAC might become too closely connected. It was also brought out, however, that experience had shown that state political action committees quite often fail when denied state society guidance.

A motion by Dr. McCarty calling for separate billing was lost for want of a second.

A motion by Dr. Birdsong that VaMPAC dues not be included on Society statements was seconded and adopted. It was requested that Dr. Martin be recorded as opposing the motion.

Since the Society likes to schedule its Annual Meetings at least four years ahead, Council was requested to consider possible dates and locations for the 1968 meeting. It was explained that Hotel Roanoke was tentatively holding October 13-16 for the 1968 meeting. Dr. McCausland indicated that the physicians of Roanoke would be pleased to have the Society meet there and extended an invitation on their behalf.

A motion to approve the October 13-16 dates was seconded and adopted.

Next to be considered was a request that Council approve the proposed Articles of Incorporation of the Virginia Association of Professions. A copy of the proposed Articles had been sent each member of Council for study prior the meeting. *A motion by Dr. Murrell to approve the Articles as submitted was seconded and adopted.*

Dr. Edwards then presented a slate of nominees for the VaMPAC Board of Directors. *It was moved by Dr. Wright that the slate be elected as presented. The motion was seconded and carried.*

The Board, as elected, follows:

District Chairmen

- 1st District: Dr. Harold L. Williams, Newport News
- 2nd District: Dr. R. Bryan Grinnan, Jr., Norfolk
- 3rd District: Dr. William R. Hill, Richmond
- 4th District: Dr. William Grossmann, Petersburg
- 5th District: Dr. Joseph W. Milam, Danville
- 6th District: Dr. John A. Martin, Roanoke
- 7th District: Dr. Monford D. Custer, Jr., Winchester
- 8th District: Dr. White McK. Wallenborn, Charlottesville
- 9th District: Dr. C. C. Hatfield, Saltville
- 10th District: Dr. James M. Moss, Alexandria

Members at Large

Dr. Thomas S. Edwards, Charlottesville
Mrs. James M. Moss, Alexandria
Dr. William H. Barney, Lynchburg
Dr. Thomas L. Lucas, Arlington
Mr. Thomas R. Holland, Danville
Mr. Floyd A. Robertson, Jr., Lynchburg
A. J. Mallis, D. D. S., Roanoke
Kenneth M. Haggerty, D. D. S., Arlington
Mr. William H. Flannagan, Roanoke
Mr. Roy R. Prangly, Norfolk

Attention was called to the fact that a number of specialty groups had asked that the Board of Directors of the Virginia Medical Service Association (Blue Shield) be appointed in such manner as to include representatives from each group. Since The Medical Society of Virginia is responsible for appointing twelve members of the Board, the thought had been expressed that perhaps the President could take these requests into consideration when making his annual appointments. It was generally agreed that the President should act as he thinks best and be left with a free hand. *A motion by Dr. Birdsong to take no action at this time was seconded and adopted.*

It was learned that the American Medical Association has requested The Medical Society of Virginia to co-sponsor a lecture series on clinical nutrition this fall. These lectures will be conducted by the AMA Council on Foods and Nutrition and a number of Virginia colleges are included on the schedule. The lectures are designed to stimulate college students to consider careers in medicine and the biological sciences, and to inform the practicing physician of recent developments in clinical nutrition. Dr. Palmer indicated that this had been placed on the agenda as a matter of information only. The lectures apparently pose no conflict, or overlap, as far as the Virginia Council on Health and Medical Care is concerned.

Consideration was given a request that the Society review its Medicare fee schedule and determine whether any changes should be made. At the same time, it was learned that the Veterans Administration has requested that Society representatives meet with V. A. officials for the purpose of revising the V. A. Home Town Medical Care schedule. *A motion by Dr. Walton which called for the Society's Medicare Advisory Committee to review both schedules was seconded and adopted.*

Council learned that money authorized several years ago for the purchase of reprints on "Confederate Medicine" was being repaid through sale of the reprints. It was recalled that the Richmond Academy of Medicine had helped with the purchase cost, to

the extent of \$264.39. All but \$49.77 has been repaid. It was agreed that this unpaid balance should be paid as soon as possible.

A proposal to amend the vacation policy for members of the State Office staff was considered. It was agreed that any employee with 30 years service should be granted an additional week of vacation. *A motion by Dr. Walton to this effect was seconded and adopted.*

There being no further business, the meeting was adjourned.

Minutes of the House of Delegates

FIRST SESSION

The House of Delegates of The Medical Society of Virginia met in the East Ballroom of Norfolk's Golden Triangle on Sunday, October 11, 1964, and was called to order at 2:00 P.M. by Dr. Richard E. Palmer, President.

Dr. Palmer introduced Dr. Robert J. Faulconer, President of the Norfolk County Medical Society, who welcomed the delegates to Norfolk and expressed the hope that their visit would be both pleasant and productive.

Dr. Kinloch Nelson, Speaker of the House, was then introduced. He requested a report from Dr. James P. Charlton, Chairman of the Credentials Committee, and was informed that a quorum was present.

The minutes of the October, 1963, meetings of the House were approved as published in the December, 1963, issue of the Virginia Medical Monthly.

Dr. Nelson introduced Mrs. James M. Moss, President of the Woman's Auxiliary to The Medical Society of Virginia. Mrs. Moss delivered an impressive report on Auxiliary activities during the year, stressing the countless hours each of the twenty-two component auxiliaries devoted to community service. Also introduced was Mrs. W. Nash Thompson, President-Elect of the Auxiliary.

The Speaker next introduced delegates from allied organizations. Dr. Richard Barrick, Portsmouth, represented the Virginia State Dental Association; Mr. J. Eddie Marks, Richmond, represented the Virginia Pharmaceutical Association; Mr. Stuart Ogren, Richmond, represented the Virginia Hospital Association; and Mr. Dennis Nofsinger, Midlothian, represented the Medical College of Virginia Chapter of the Student American Medical Association.

Dr. Walter Porter, Chairman of the Finance Committee, reported the Society's financial condition as good, and reviewed the proposed budget for fiscal

1964-65. The budget was received and referred to Reference Committee #1.

Dr. Thomas Murrell, Jr., Chairman of the Executive Committee of Council, reported two items which Council had requested be referred to the House for special consideration. The first had to do with whether the Society's recommendations concerning non-payment for services provided hospitalized patients under Kerr-Mills should remain unchanged or amended. The second had to do with a proposed rider to contracts of the Virginia Medical Service Association (Blue Shield) which would provide coverage for certain services provided by osteopaths, podiatrists and oral surgeons. Both matters were referred to Reference Committee #2.

Dr. Palmer then delivered his Presidential address, which will be published verbatim in the Virginia Medical Monthly.

The Speaker appointed temporary chairmen from the Congressional Districts to meet with their respective delegations for the purpose of electing members of the Nominating Committee.

A recess was then declared, and the various delegations caucussed. When the House reconvened, the Committee on Nominations was announced as follows:

1st District	Dr. Russell Buxton
2nd District	Dr. Mallory S. Andrews
3rd District	Dr. J. Robert Massie, Jr.
4th District	Dr. Julian Yeatman
5th District	Dr. William D. Lewis
6th District	Dr. George Hurt
7th District	Dr. Charles L. Savage
8th District	Dr. James G. Willis
9th District	Dr. Joseph Early
10th District	Dr. John C. Watson

The House next gave its approval to proposed Rules of Procedure for handling House business.

Dr. Kenneth Crispell, Dean of the University of Virginia School of Medicine, then addressed the House. He thanked the Society for making scholarship money available and also for its assistance in obtaining legislation which had been needed so long in the field of medical education. He went on to discuss the shortage of family physicians, and made it clear that the University was quite aware of the problem. Dr. Crispell also mentioned the tremendous amount of help medical schools have obtained from the AMA Education and Research Foundation.

Dr. Nelson, speaking as Dean of the Medical College of Virginia School of Medicine, followed Dr.

Crispell and reported that the future for medical education looked brighter than it had in the past several years. He referred to the increasing number of applicants and the fact that many of the better students are again turning to medicine as a career. He discussed the problem of class losses and drop-outs, and expressed the hope that ways could be found to reduce them to the barest minimum. He also expressed appreciation for the money received from the AMA Education and Research Foundation.

The various committee reports were received and referred to Reference Committees. At the same time, committee chairmen were invited to present supplemental reports should they so desire. Supplemental reports were presented by the Judicial Committee, Committee on National Legislation and the Committee on Medical Education.

A supplemental report of the Liaison Committee to Nursing, containing a resolution endorsing the "Prangly Plan" for certified bedside nurses, was received and referred to Reference Committee #2.

New business was called for, and Dr. Robert L. Payne, Jr., introduced a resolution which would approve the principle of making standard the selection and training of operating room technicians. The resolution was referred to Reference Committee #1.

A resolution calling attention to the fact that the maximum payment authorized for nursing home care by the Department of Welfare is materially below actual cost was introduced by Dr. Harry B. Stone. The resolution was referred to Reference Committee #1.

Dr. John R. Mapp then introduced a resolution on behalf of the Virginia Radiological Society which recognized the many contributions of Dr. George Cooper, Jr., to Virginia medicine. The resolution was referred to Reference Committee #1.

A proposed amendment to Section 1, Article VIII, of the By-Laws was introduced by Dr. Robert Abernathy and referred to Reference Committee #1. The proposed resolution was designed to bring Council membership in line with membership in the House of Delegates.

Dr. W. Nash Thompson introduced a resolution which would have the Legislative Committee seek legislation providing funds for the hospitalization of expectant indigent mothers at time of delivery. The resolution was referred to Reference Committee #2.

The following resolution, introduced by Dr. Alexander McCausland, was adopted without referral due to its special nature:

BE IT RESOLVED: That Doctor Rachael Weems be nominated to receive the award of the President's Committee for the Physically Handicapped and the Governor's Award Committee as the Doctor doing the most toward the employment of the physically handicapped in Virginia.

There being no further business, the meeting was adjourned.

SECOND SESSION

The Second Session of the House of Delegates was called to order by Dr. Kinloch Nelson, Speaker, at 3:30 P.M. on Tuesday, October 13, 1964, in the Fourth Floor Annex of Norfolk's Golden Triangle.

A quorum was reported by Dr. James P. Charlton, Chairman of the Credentials Committee.

Dr. Salley was requested to present the report of Reference Committee #1. On the recommendation of the Committee, the following reports were approved: Executive Secretary-Treasurer; AMA Delegates; Membership; Editorial Board; Mental Health; Cancer; Child Health; Medical Education; Supplemental Report of Committee on Medical Education; Walter Reed Commission; Radiation Hazards; Aging and Chronically Ill; Tuberculosis; House; Alcoholism; Advisory to Woman's Auxiliary; and Rehabilitation.

The following budget for fiscal 1964-65, as recommended by the Committee, was approved:

Executive Office:

Salaries	\$ 40,000.00
Telephone & Telegrams	1,600.00
Postage	2,500.00
Stationery & Supplies	2,000.00
Office Equipment	850.00
Building Maintenance	6,800.00
Convention Expenses	1,000.00
Council & Committee Expense	2,700.00
Delegates to AMA	2,000.00
Executive Assistant Travel	300.00
President's Expense	1,000.00
Travel	1,800.00
Virginia Medical Monthly	35,000.00
Scientific Exhibits	2,000.00
Legal Expense	3,500.00
Walter Reed Commission	500.00
Woman's Auxiliary	100.00
Membership Dues (Affiliated Organizations)	550.00
Editor—Virginia Medical Monthly	600.00
Retirement Fund	5,100.00
Social Security	750.00

Special Appropriations:

Virginia Council on Health & Medical Care	3,000.00
AMA-ERF	2,000.00
AMA Student Loan	1,000.00

National Society Medical Research	\$ 150.00
Rural Health	500.00
Miscellaneous—AMA	500.00
Scholarship—MCV School of Medicine	1,000.00
Scholarship—University of Virginia School of Medicine	1,000.00
News and Views	800.00
VaMPAC	3,500.00
Congress on Mental Health	500.00
Miscellaneous	1,000.00
Maternal Health Committee—Maternal Death Studies	250.00

Public Relations:

Total Budget (Special Student Day Programs, Conferences, Radio, T.V., etc.)	2,500.00
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TOTAL BUDGET \$130,350.00

It was then recommended by the Reference Committee that the proposed amendment to Article VI of the Constitution be referred back to the Judicial Committee for further consideration. This proposed amendment would have restricted the voting membership of Council to elected members while providing for advice from any source which might be helpful. The Committee's recommendation was adopted.

Also adopted was a recommendation that the first sentence of the third paragraph of Section 1, Article I, of the By-Laws be amended to read as follows:

"Active members who move out of State may become Associate members of the Society."
Only the word "may" is added.

The Reference Committee then recommended that Article IV of the By-Laws be amended by deleting Section 9. The recommendation was adopted. This amendment eliminates a Section which has never been used but conceivably could be implemented to accomplish undesirable ends.

Adopted next were amendments to Article VIII of the By-Laws. The first deleted the first and fourth sentences of Section 1, thereby eliminating what is already found in the Constitution. The first sentence of Section 2 was amended by eliminating the word "censor," which no longer appears applicable.

A Committee recommendation was adopted amending the second sentence of the fourth paragraph of Article IX of the By-Laws. This amendment merely eliminated language serving no apparent purpose. The sentence now reads as follows:

"The chairmen of all standing or special committees shall have the privilege of the floor when

reporting to the House or in any incidental discussions."

Article V of the By-Laws was amended by deleting the last sentence of Section 1 and substituting the following:

"As the first order of business at each annual session, the House of Delegates shall adopt Rules of Procedure to govern the conduct of business during the session. Between sessions the Council shall review the Rules previously used and recommend to the House any changes considered advisable."

The purpose of this amendment is to give formal approval to the method by which Rules of Procedure are established.

Considered next was an amendment to Section 1, Article VIII, of the By-Laws, as advocated by the Tazewell County Medical Society and introduced by Dr. Abernathy. The amendment, adopted as recommended by the Reference Committee, is designed to bring Council membership in line with membership in the House of Delegates. It provides for the following to be inserted after the first sentence of Section 1:

"Each Councilor who represents a Congressional District must reside in and/or conduct the major part of his practice in the Congressional District he represents."

The Reference Committee then recommended that the proposed specific interpretation of acceptable blood availability, as contained in the report of the Maternal Health Committee, be referred to an appropriate committee, or committees, for further consideration. The recommendation was adopted.

Adopted next was a recommendation that the resolution approving the principle of making standard the selection and training of operating room technicians be referred to an appropriate committee for study and report to Council.

Acting on a recommendation of the Reference Committee, the House adopted the following resolution sponsored by the Virginia Radiological Society:

WHEREAS: Dr. George Cooper, Jr., a beloved, wise, and enterprising physician, a devoted member of this Society, and until recently Professor of Radiology at the University of Virginia Medical School, has now accepted a call to greater responsibilities at the University of Tennessee; and

WHEREAS: Dr. Cooper has served Virginia so faithfully in programs of public health such as control of cancer, tuberculosis, and radiation along with work for organized medicine in Blue Cross-Blue Shield planning and radiology in Virginia and the Nation; and

WHEREAS: Dr. Cooper has contributed greatly

to medical teaching of students and graduates and to the medical literature; therefore be it

RESOLVED: that The Medical Society of Virginia in convention assembled in October, 1964, does herewith express its great appreciation for his contributions during thirty years of medical practice among us, its regrets at his departure, and its wishes of Godspeed in his new endeavors and eventual return to the Old Dominion; and be it further

RESOLVED: that copies of these resolutions be circulated to the Virginia Medical Monthly, the University of Virginia Medical Alumni News Letter, the American College of Radiology Bulletin, the Journal of the Tennessee Medical Society, and to Dr. and Mrs. George Cooper, Jr.

The following resolution, introduced by Dr. Stone, was adopted at the recommendation of the Committee:

WHEREAS: adequate nursing home facilities are in increasing demand; and

WHEREAS: adequate nursing homes are indispensable institutions in the rendering of complete medical care in a community; and

WHEREAS: operating costs of nursing home care have increased as the result of the general economic situation, as well as the improved standards required of them by accrediting agencies; and

WHEREAS: the maximum payment presently authorized for nursing home care of welfare patients by the State of Virginia is materially below the actual cost of rendering such care in an accredited nursing home; and

WHEREAS: the correction of this inadequate payment is mandatory, if accredited nursing homes are to continue to function and adequately serve their communities; be it

RESOLVED: that the Roanoke Academy of Medicine goes on record as urging the appropriate agencies in the State of Virginia to recognize this situation and rectify it by necessary legislation and/or administrative decision so that the payment for nursing home care of welfare patients will be realistic and meet the per diem cost of patient care in accredited nursing homes; and be it further

RESOLVED: that the Roanoke Academy of Medicine hereby directs its delegates to the 1964 State convention of The Medical Society of Virginia to use their influence in obtaining complementing resolutions from The Medical Society of Virginia to acquaint the proper State administrative offices of this need and the sentiment of the medical profession regarding the need for an immediate solution to this problem.

Dr. Nelson then relinquished the chair in order to present the report of Reference Committee #2.

It was the Committee's recommendation that the following committee reports be approved: Ethics; Public Relations; Mediation; Advisory to Medical and Allied Organizations; Medicare; Insurance; Na-

tion Emergency Medical Service; Liaison to United Mine Workers' Welfare and Retirement Fund; National Legislation—including Supplemental Report; Traffic Safety; Liaison to State Nurse Examiners and Organized Nursing; and Legislative.

The House learned that the Reference Committee had given long and careful consideration to the question of whether the Society's recommendations concerning non-payment for services provided hospitalized patients under the MAA portion of Kerr-Mills should remain unchanged. At the present time, physicians are paid only for home and office visits. Acting on the recommendation of the Committee, the House then adopted the following resolution:

"BE IT RESOLVED: that, since The Medical Society of Virginia is deeply interested in making the Virginia Kerr-Mills Program successful, it is recommended that our Liaison Committee to the Department of Welfare attempt to work out with that Department a relative value schedule to be used in payment of physicians for both in-patient and out-patient services. It is further recommended that this schedule be reviewed each year."

In view of the above, it was recommended that no specific action be taken on a resolution from the Roanoke Academy of Medicine which expressed the feeling that The Medical Society of Virginia should not recommend that physicians' fees be excluded under MAA. The House concurred.

No action was taken concerning a statement from the Virginia Society of Ophthalmology & Otolaryngology for the same reason.

A report of the Advisory Committee to Public Welfare was approved but no action taken on its recommendation that the question of physicians' fees under Kerr-Mills be referred to the House. The above resolution again made such action unnecessary.

Another matter which received careful consideration by the Committee was that having to do with a proposed rider to Blue Shield contracts providing coverage for certain services by osteopaths, podiatrists and oral surgeons. It had been the Society's position in the past to recommend that Blue Shield contracts not be amended in such manner as to provide this coverage. Acting on the recommendation of the Reference Committee, the House voted that the Society's position remain unchanged.

In view of the above, no action was considered necessary on a recommendation from the Medical Service Committee that such amendments be rejected, or a request from the Committee of Blue Shield Directors that the proposed rider be considered by

the House. The reports of both committees were, however, approved.

The House then adopted a recommendation from the Committee that the resolution from the Patrick-Henry County Medical Society, which would have the Legislative Committee seek legislation providing funds for the hospitalization of expectant indigent mothers at time of delivery, be referred to the Committee on Maternal Health.

It was recommended that the following statement, proposed by the Liaison Committee to the State Bar, be added under Section C of "Standards of Principles Governing Lawyers and Physicians":

"The financial relationship of the physician and patient is personal between them and the attorney should not discourage without good cause the prompt payment of reasonable medical bills."

The proposed statement was adopted.

The House concurred with a Committee recommendation that a proposed amendment to Paragraph 7, Article III, of the "Joint Medico-Legal Plan for Screening Medical Malpractice Cases" not be adopted. The amendment would have permitted unilateral hearings by the Screening Panel in those cases where consent could not be obtained from the physician concerned and his attorney.

The following resolution, recommended by the Committee, was adopted:

WHEREAS: with the gradual rise in educational requirements for professional nurses, the increasing difficulty of smaller hospitals to provide the training required to meet these standards; and

WHEREAS: college trained nurses are less adept and useful at the bedside; and

WHEREAS: the difficulty of recruitment of students for nursing from the upper third of graduating high school classes is steadily increased by competition in other fields such as business; and

WHEREAS: the best bedside nurses are hospital trained and can pay for their training by the work they can do; and

WHEREAS: the present nursing shortage is a threat to hospital construction and patient care; therefore be it

RESOLVED: that The Medical Society of Virginia endorse the Prangly Plan for training larger numbers of two-year "certified bedside nurses" in more hospitals, for further study by a joint commission to be arranged by joint agreement with the Virginia Nurses Association, the Virginia Hospital Association, and the Virginia Board of Nurse Examiners.

In view of the above resolution, the House agreed that no specific action should be taken on the resolution introduced by Dr. Walton requesting a VALC study of the nurse education program in Virginia.

A motion was passed adopting the Reference Committee report as a whole.

Consent was then obtained to introduce a resolution commending the Committee on Arrangements and Golden Triangle staff on their efforts in behalf of the 1964 Annual Meeting. The resolution, as follows, was adopted unanimously:

BE IT RESOLVED that this body commend the Committee on Arrangements of the Norfolk County Medical Society and the Program Committee of The Medical Society of Virginia for outstanding jobs in connection with this 1964 Annual Meeting; and

BE IT FURTHER RESOLVED that the staff of the Golden Triangle be thanked for its part in making the meeting a most successful and enjoyable experience.

Dr. Mallory Andrews, Chairman, then presented the report of the Committee on Nominations. The following nominees were elected:

President-Elect: Dr. Alexander McCausland
1st Vice-President: Dr. Harry M. Frieden
2nd Vice-President: Dr. Boyd H. Payne
3rd Vice-President: Dr. Thomas S. Edwards
Speaker: Dr. Kinloch Nelson
Vice-Speaker: Dr. W. Callier Salley
Executive Secretary-Treasurer: Robert I. Howard

The following Councilors were elected:

2nd District: Dr. K. K. Wallace
4th District: Dr. A. Tyree Finch
6th District: Dr. Harry B. Stone
8th District: Dr. Guy F. Hollifield
10th District: Dr. Michael A. Puzak

Nominations to be submitted to the Governor for appointment to the State Board of Medical Examiners from the 6th District were announced as follows:

Dr. George B. Craddock
Dr. William H. Barney
Dr. Ernest Scott

The installation of Dr. Birdsong as President was then conducted, with Dr. Palmer presenting him the gavel as a symbol of his office.

Dr. Birdsong replied by presenting Dr. Palmer with an engraved gavel and Certificate of Appreciation from the Society.

The House was advised by the Speaker that the term of Dr. Vincent W. Archer as Delegate to the American Medical Association would expire on December 31. The names of Dr. Salley and Dr. Archer were placed in nomination, and Dr. Archer was elected in a close contest.

Dr. Richard Palmer was then elected as Dr. Archer's alternate.

The House heard a suggestion that consideration be given the use of a ballot box for future elections. Delegates could then file by and deposit their ballots—thereby eliminating any confusion.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

Approved:

RICHARD E. PALMER, M.D., *President*

Fifty Year Members—1964

Roy Eugene Christie, M.D.
Richard Hunter Cross, M.D.
Malcolm Peel Dillard, M.D.
Edward Latane Flanagan, M.D.
James Raymond Gorman, M.D.
Kenneth Dawson Graves, M.D.
Frederick Eugene Hamlin, M.D.
Jack Hawley Harris, M.D.
Joseph Minor Holloway, M.D.
Nelson Mercer, M.D.
Robert Lucas Ozlin, M.D.
Walther Riese, M.D.
George Grover Snaar, M.D.
Landon Elwood Stubbs, M.D.
Howard Urbach, M.D.

Members Whose Deaths Have Been Reported Since 1963 Annual Meeting

Wade Cleveland Payne, M.D.
Cary Elphus Via, M.D.
John Thomas Daves, M.D.
Ramon David Garcin, M.D.
Willard Epperly Lee, Jr., M.D.
Russell Smiley, M.D.
Thomas Watkins, M.D.
Lucius Hazeltine Bracey, M.D.
Thomas Henry Daniel, M.D.
Hartmut Werner Doerwaldt, M.D.
Louis Perlin, M.D.
Frank Cushing Pratt, M.D.
Charles Walter Thomas, M.D.
Frederic Jefferson Kellam, M.D.
Allie Dexter Morgan, M.D.
Andrew Daniel Parson, M.D.
Reuben Barnes Ware, M.D.
Arthur Sumner Brinkley, M.D.
Albert Compton Broders, M.D.
Rufus Marion DeHart, M.D.
Cecil Guy Hupp, M.D.
Williamson Crothers Welburn, M.D.
Clarence Campbell, M.D.
Joseph Haven Hoge, M.D.
Willard Palmer Smith, M.D.
James Walker Tipton, M.D.
William Rush Whitman, M.D.
Edward Franklin Younger, M.D.

Robert Eubank Booker, M.D.
 Arthur Joseph Edwards, M.D.
 Beverley Fitzwilson Eckles, M.D.
 German Smith Hartley, M.D.
 Margaret Hatfield, M.D.
 Thomas Earl Patteson, M.D.
 Morton Morris Pinckney, M.D.
 William Carthon Archer, M.D.
 Sylvester Patton Gardner, M.D.
 Thomas Addison Morgan, M.D.
 Lee Edwards Sutton, M.D.
 Hugh Benton Brown, Jr., M.D.
 Thomas Lorimer Gemmill, M.D.
 Ludwell Fitzhugh Lee, M.D.

The following reports, while accepted by the House of Delegates, have not been published previously.

Legislative

Your Committee reports on the 1964 session of the Virginia General Assembly. Your attention is particularly directed to those sections which deal with the establishment of a Tidewater medical school and the Norfolk Area Medical Center Authority, the certification of psychologists, and the law affecting the mentally ill.

Virginia Council on Health and Medical Care

By a joint resolution of the Senate and House of delegates the Council was "highly commended" for its outstanding achievements, its work being cited as an outstanding example of the proper functioning of the free enterprise system.

Tidewater Medical School

The State Council of Higher Education was directed by the 1962 General Assembly to study the need for a medical school in the Tidewater area. As an aid to the State Council the Mayor's Council of Norfolk, under the leadership of Byron F. Black and Dr. Mason C. Andrews, undertook a study of its own which supported the finding of the State Council that such a school is needed. The General Assembly in two separate resolutions commended all concerned for their work and for the civic spirit and initiative manifested in undertaking such a project.

The General Assembly did create the Norfolk Area Medical Center Authority, composed of seven members (two of them physicians) to be appointed by City Council. The Authority is empowered to study medical needs of the area and may construct medical facilities financed by gifts, grants, loans or bond issues. The City is expressly empowered to cooperate

with the Authority in a number of different ways, and the bond issues of the Authority are made proper investments for fiduciaries. The General Assembly declined to pass a bill which would have declared the Authority to be an educational instrumentality of the State government.

Visiting Professors

The Deans of the school of medicine of the two State medical schools have for some time wanted to be able to obtain distinguished foreign physicians for teaching purposes. The Medical Practice Act forbade the Board of Medical Examiners to admit to its examinations any graduate of a school outside the United States or Canada unless and until he had served two years as an intern in a hospital in the United States or Canada. This quite obviously presented an almost insuperable obstacle to such employment as few truly distinguished foreign physicians would be willing to undergo two years of internship and submit to Board examinations in order to qualify for an invitation to teach at one of our medical colleges. The Medical Education Committee and the House of Delegates to which it reported recommended that there be some relaxation of these requirements. The General Assembly therefore amended the Medical Practice Act so as to give the Board of Medical Examiners complete discretion with respect to issuance and renewal of temporary licenses for the practice of medicine by graduates of foreign medical schools only in the hospital or hospitals and outpatient clinics connected with the medical school which recommends that they be so licensed and only so long as they are full-time members of the faculties at these schools.

Optometrists

House Bill 282 as introduced would have increased the requirements for licensing as an optician and would have expressly denied opticians the right to fit contact lenses except under the prescription and direction of an ophthalmologist. By implication optometrists would have been denied the right to prescribe contact lenses. At their request the bill was amended in such manner that the optometrists now have, by clear implication, the right to prescribe and direct the fitting of such lenses.

Dentists

The statute enacted at the last session of the General Assembly to provide that a physician ren-

dering emergency care at the scene of a highway accident should enjoy immunity from suit under certain conditions was amended to extend to a dentist under similar circumstances. Dentists also obtained the passage of legislation which authorizes the creation of dental service associations, similar to the medical service associations, which we know as Blue Shield, so that plans can be worked out for furnishing prepaid dental services to subscribers.

Medical Technologists

A bill was introduced which would have created a Board for the licensing of Medical Technologists. A high school education and two years at an "accredited school of medical technology" would have been prerequisite to examination by the Board in such subjects as urinalysis and histopathologic technique. The bill was never reported by the General Laws Committee to which it was initially referred.

Psychologists

At the 1962 session of the General Assembly the Virginia Psychological Association fought to remove the certification of psychologists from any medical control or supervision and to establish its own system for qualifying and regulating members of that profession. After that session joint efforts at a mutually agreeable solution were made by the Mental Health Committee of the Society and the Virginia Neuropsychiatric Society and the Board of Medical Examiners, working with the VPA.

These efforts met with no success and the beginning of the 1964 session saw the VPA and the medical groups contemplating the introduction of bills designed to strengthen their respective views. The VPA bill was essentially the same as the 1962 measure except that it had been amended to meet a number of objections expressed at the 1962 public hearing. In essence, the medical bill would make the Board of Medical Examiners the administrative agency for the licensing of clinical psychologists and would give that agency the power to stop any unlawful practice of medicine by psychologists. The Board would not determine the standards of practicing psychology, nor would the Board have any regulatory power over psychologists who were not working in para-medical areas.

The really great difficulty with the psychologists' bill was its failure to define or describe the disputed area of activity. By and large, physicians do not want to exclude psychologists from working in areas in which their talents can be useful, but concern was

often expressed that psychologists who did not have medical training might, in working with persons having emotional or personality problems, fail to recognize illnesses requiring medical treatment. It is for this reason that some supervision is needed.

As a compromise between the views of the two groups, both bills were withheld from introduction and a study by the Virginia Advisory Legislative Council was directed by the General Assembly. Your Legislative Committee is glad to report that that study is now under way and hopes that, if you are called upon, you will give the study committee every assistance with this difficult problem.

Mental Hospital Interns

The section of the Code dealing with internship formerly limited interns and residents to a period of service of three years, with certain special exceptions. At the instance of the Virginia Board of Medical Examiners this section was amended to increase the period to six years for interns and residents in mental hospitals.

Mental Illness

A commission created in 1962 recommended a number of changes in our mental health laws, most of which were made at this session of the General Assembly. Statutes which formerly left some question as to whether marriages of persons who were insane at the time of marriage were void or merely voidable were amended so that such marriages are not now to be considered void until so adjudicated. Formerly the Commissioner of the Division of Motor Vehicles decided whether the driving license of a person who had been committed to a mental institution was to be suspended. Hospital authorities are now to report to the Commissioner persons who are mentally incompetent to drive. This relieves the Commissioner of the burden of making an essentially medical decision, and persons who are competent to drive will not automatically lose this privilege. Mentally ill persons who have been accused of crimes must now be kept in one of the hospitals having maximum security facilities. Epileptics may no longer be committed at all except when epilepsy is accompanied by some other mental condition. Some other changes were made in Title 37, including a general simplification and rearrangement of the statutory provisions covering commitment procedure. The State Board of Health, rather than the Department of Mental Hygiene and Hospitals, will now license institutions for the treatment of alcoholics.

Immunization

In 1962 a law was enacted compelling D.P.T., polio and small pox immunization of all children in Grayson County. At this session an unsuccessful effort was made to broaden the application of this law to the whole state.

Veni-puncture

Some physicians and nurses wanted the authority of nurses and technicians to make veni-punctures specifically stated as a matter of law. Your Legislative Committee therefore obtained the introduction of a bill declaring it to be within the scope of the usual professional activities of registered nurses and graduate laboratory technicians to take blood by means of veni-puncture, and to give intravenous infusions and intravenous injections and to insert Levin tubes, provided such actions were ordered by a physician. This bill was enacted.

Highway Safety

The implied consent statutes enacted in 1962 met with many difficulties and it was necessary for the General Assembly to completely rewrite the most critical portions of that law. Certain of the changes are of particular interest to our profession. The law now permits the person taking the sample to use disposable syringes. This person puts the sample of blood in two vials and gives both to a police officer. The officer sends one vial to the Chief Medical Examiner who initially provided both empty vials. The same officer gives to the accused a form provided by the Chief Medical Examiner. The form tells the accused of the procedure for obtaining a private testing of the blood and lists the laboratories approved by the Examiner for doing such work. If within 72 hours the accused or his counsel requests in writing that the second vial be tested and designates a testing laboratory from the list, then it is sent to that laboratory which tests the contents of and returns the vial together with its certified analysis to the clerk of the court. For its services in making the analysis the laboratory is to receive not more than \$15 to be paid out of the appropriation for criminal charges. This fee is charged in the costs against a defendant who is convicted. Under the new statute only substantial compliance with the procedural aspects of the law is necessary to conviction and the accused may put in evidence that the procedure has not been complied with and that his rights have thereby been prejudiced.

In addition to the strengthening of the implied consent statutes, the General Assembly also moved in the direction of greater safety on the highways by asking for two different studies. The State Health Commissioner is to appoint a committee to study and recommend minimum visual standards for motor vehicle operators. The State Board of Pharmacy is to study the need for additional laws and enforcement personnel to prevent the sale of dangerous drugs to motor vehicle operators.

Workman's Compensation

Section 65-53 of the Code of Virginia provides what compensation shall be paid to a workman who suffers partial but permanent incapacity in any of a number of different instances. At this session the General Assembly added silicosis of the first, second or third stage, and marked disfigurement of hands, arms or legs, to those incapacities listed in this section.

Human Eyes

Parts of the human body not being considered property in the usual sense of the word, legislation (to which Code number 32-364.1 was assigned) was enacted to provide a specific way in which one may now leave his eyes for scientific use or for replacement or rehabilitation of diseased human eyes.

Battered Child Legislation

At this session a bill designed to protect children from abusive parents was approved by the Senate. Under the provisions of this bill a physician who observed any instance of abuse either by way of excessive physical punishment or by way of neglect of a child brought to him for treatment would have been required to report it. Although this bill, and a different one with a similar purpose introduced in the House, seemed to cut across traditional aspects of the physician-patient relationship, your Society took no official position with respect to them, believing that such matters should best be left to legislative determination in view of the public interest in the welfare and protection of children. The introduction of these two bills, and the approval of one of them by the Senate and of another by a House Committee, reflects the nationwide interest in legislation of this sort even though neither bill actually ran the whole gamut to passage. Even though there were a number of specific objections to these particular bills, no one would be likely to criticize the general

objective which they shared and we may well expect the introduction, at future sessions, of other bills having the same purpose.

Gun-shot Wounds

Senate Bill No. 29 would have required a physician who treated a wound inflicted by a firearm or a knife or similar weapon to report the wound regardless of its seriousness. The bill would likewise have required Hospital Managers to report any such wounds treated in the hospital whether they might have reason to know of them or not. This bill was reported by Committee but was never enacted into law.

Radiation Hazards

In 1960 the General Assembly set up a system for the registration of radio-active devices and materials. Recently the Atomic Energy Commission indicated its willingness to relinquish some of its licensing and inspection functions and the General Assembly at this session accordingly established a new system for licensing by the State Health Department in addition to registration, and specifically empowered a Radiation Advisory Board established under this legislation to implement the licensing and registration provisions by rule or regulation. It is of special interest to the members of our Society to note specific language of this chapter (§ 32-414.10) which reads as follows:

"This chapter shall not be construed to limit the kind or amount of radiation that may be intentionally applied to a person for diagnostic or therapeutic purposes by or under the direction of a licensed practitioner of the healing arts; nor except as to registration, the qualifications of such a practitioner to use radiation produced by an x-ray machine or device, not subject to federal regulation heretofore, in his practice."

Trademarked Drugs

A new section of the Code now makes it a misdemeanor to fraudulently mislabel a drug or to knowingly sell or hold for sale any drugs so mislabeled.

The Aged

Special legislation which was backed by our profession will enable insurance companies to get together to pool their talents and resources in providing a scheme to insure persons over 65 against accident and sickness. This should open up a real field of

venture and gain for private enterprise. Where other State legislatures grant similar authority, insurance companies can work together across State lines.

Appropriations for implementation of Kerr-Mills for the coming biennium were made in the amounts requested in the budget bill.

State-Local Hospitalization

The State-Local program for the hospitalization of indigent persons has been enlarged to include outpatient and emergency room services.

The chairman of your Legislative Committee wishes to express his appreciation for the counsel and assistance of the other members of his Committee throughout the whole session.

JAMES D. HAGOOD, M.D., *Chairman*

Medical Service

1. This Committee has previously studied and made recommendations that The Medical Society of Virginia make efforts to promote the consolidation of the various Blue Cross-Blue Shield Plans operating within the State.

We believed that there were many benefits to be obtained by all parties concerned and that there would be closer association between the physicians and the "Blue Plans", uniformity of contracts, physician-hospital and Blue Shield relationship, with a decrease in cost of operation. Since the original recommendations were made, the "Norfolk Plan" has consolidated with the "Richmond Plan" and the Richmond Plan has been furnishing Blue Shield coverage to the Lynchburg area. After due consideration of this problem and the many activities in the Roanoke and Richmond Plans, the Committee recommends that we continue to work for an ultimate consolidation of all Plans operating in the State.

2. The Committee was asked to make recommendations relative to proposed changes in the Richmond Blue Shield Plan with reference to including the services of osteopaths, podiatrists (chiropracist) and dentists to be covered by a special "rider". The Committee does not believe that this change should be made and definitely recommends against any such change at this time.

3. The problem of improperly supervised and controlled "Medical Diagnostic Laboratories" was referred to the Committee for study and recommendations. Fortunately, a member of the Committee is a clinical pathologist who is familiar with this problem.

In his absence, the Committee recommends that

Council authorize the Society's attorney to supply the Committee with copies of legislation in Virginia on the subject and copies of legislation from states which have established effective control of the problem. The Committee will make recommendations following subsequent meetings.

4. (a): The Sub-Committee on Insurance chairmanned by Dr. William Johns reported on general problems of insurance claims with reference to fees for service. This work has increased considerably in the last two years. In view of the increasing volume of work, we recommend that costs of the Sub-Committee activities be assumed by the Society and not the Chairman of the Committee. This expense includes telephone calls and secretarial and stenographic assistance.

(b) The Society's attorney has advised that the form used for reports by the Insurance Committee be revised. The forms recommended by Mr. Duval, with slight additions, were adopted and will be used in the future.

(c) A questionnaire being requested by some insurance companies was called to the Committee's attention. After study, it was recommended that physicians consider it their responsibility to advise their patients regarding the advisability of driving vehicles, but they have no right to make a report to an insurance agency or governmental agency unless authorized by his patient specifically to do so.

5. Detailed instructions regarding proper marking of insurance forms for assignment of benefits will all appear in the *Virginia Medical Monthly* during the next year.

6. The Committee recommends that assistance to 4-H Club Health Programs as practiced in the past, with appropriation of \$500.00 for distribution to the participants, be continued.

Summary of Recommendations

1. That we continue efforts to encourage the consolidation of "Blue Plans" in the State.
2. That the House of Delegates oppose inclusion in the Richmond Blue Shield Plan of coverage of services rendered by osteopaths, podiatrists (chiropractists) and dentists.
3. That Committee continue its study of improperly supervised and controlled "Medical Diagnostic Laboratories" and make recommendations in the future.
4. That funds be authorized for expenses of Sub-Committee on Voluntary Pre-paid Insurance.
5. That physicians be cautioned regarding ques-

tionnaires regarding ability of individuals to drive motor vehicles but that physicians have a responsibility to their patients when, in their opinion, they should not drive motor vehicles.

6. That the Society continue its annual appropriation of \$500.00 to the 4-H Club Health Programs.

The Chairman wishes to apologize to the Committee for not having had a meeting earlier in the year. Circumstances were such that an early meeting did not seem advisable. I also wish to express to each and every member of the Committee sincere appreciation for their time and assistance.

CHARLES L. SAVAGE, M.D., *Chairman*

Rehabilitation

The Committee on Rehabilitation, which serves also as the Advisory Committee to the State Department of Vocational Rehabilitation, has been unusually active during the past fiscal year.

On September 8, 1963, fifteen members of the Committee met in Richmond. At this session, a constructive discussion took place on the advisability of the Agency employing paid medical consultants. It was pointed out that these medical consultants would work very closely with this Committee and would not be designed to replace the Committee.

Some examples of duties of medical consultants are:

1. Individual case consultation on medical reports submitted by field counselors.
2. Review of physical restoration measures, etc.
3. In-service training of staff.
4. Standards for use of medical facilities.
5. Liaison with Medical Advisory Committee and The Medical Society of Virginia.

It was concluded that further investigation and discussion by Sub-Committee at next meeting was indicated.

The approach used by this Sub-Committee which met on March 8, 1964, was by review of 100 case files. The purpose was to determine the nature and adequacy of medical information secured by rehabilitation counselors in serving clients.

Committee members continue to provide consultative services to the professional staff of the Agency on rehabilitation cases involving complicated medical problems and in the establishment of surgical fees.

Professional guidance by the Committee has been

given in the development of new procedures and policies concerned with the provision of physical restoration services for eligible vocationally handicapped individuals.

ROY M. HOOVER, M.D., *Chairman*
LEROY SMITH, M.D.
G. S. FITZ-HUGH, M.D.
F. J. WRIGHT, JR., M.D.
J. TREACY O'HANLAN, M.D.
JAMES L. THOMSON, M.D.
J. R. BLALOCK, M.D.
RENO PORTER, M.D.
CHARLES L. SAVAGE, M.D.
FRANK B. STAFFORD, M.D.
A. RAY DAWSON, M.D.
JOHN N. PASTORE, D.D.S.
W. KYLE SMITH, M.D.
ALEXANDER McCausland, M.D.
CARNEY C. PEARCE, JR., M.D.
GEORGE A. DUNCAN, M.D.

Auditor's Report

OFFICERS AND COUNCILORS
THE MEDICAL SOCIETY OF VIRGINIA
RICHMOND, VIRGINIA

GENTLEMEN:

We have made an examination of the books and records of THE MEDICAL SOCIETY OF VIRGINIA, RICHMOND, VIRGINIA, for the fiscal year ended September 30, 1964, and have prepared therefrom the Balance Sheet, Exhibit "A", Statement of Surplus, Exhibit "B", and Statement of Income and Expenses, Exhibit "C". With the exceptions noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not verify the accounts receivable by direct correspondence with the debtors, nor did we verify the accounts payable. It will be noted from the balance sheet that the amounts of these items are not material in relation to the financial position as a whole.

It is our opinion that the Balance Sheet, Exhibit "A", presents fairly the financial position of the Society at September 30, 1964, in accordance with generally accepted principles of accounting. The Statement of Income and Expenses, Exhibit "C", is prepared on the basis of cash receipts and disbursements.

Yours very truly,

MITCHELL, WIGGINS & COMPANY
By CHARLES W. ANDERSON
Certified Public Accountant

BALANCE SHEET
September 30, 1964

ASSETS	
GENERAL FUND	
Cash in banks.....	\$ 129,173.67
Accounts receivable:	
Dues from members—Estimated collectible value—1962 dues—50 @ \$40.00..	\$2,000.00
Advertising—Virginia Medical Monthly.....	2,575.00
	4,575.00
Investments:	
United States Savings Bonds—Present value (Schedule 1).....	20,579.00
	\$ 154,327.67
PLANT FUND	
Land and buildings—At cost (Schedule 2).....	\$ 112,073.67
Furniture and equipment: (Schedule 2)	
Estimated value—October 1, 1950.....	\$ 5,353.11
Cost of acquisitions since October 1, 1950.....	7,701.30
	13,054.41
	\$ 125,128.08

EXHIBIT "A"

LIABILITIES AND SURPLUS

GENERAL FUND	
Accounts payable:	
Preparation of Medical Journal—September, 1964.....	\$ 2,330.52
Surplus:	
Available for appropriation:	
Balance—September 30, 1964 (Exhibit "B").....	151,997.15
	\$ 154,327.67
PLANT FUND	
Surplus invested in plant assets (Exhibit "B").....	\$ 125,128.08
	\$ 125,128.08

STATEMENT OF SURPLUS

For the Fiscal Year Ended September 30, 1964

EXHIBIT "B"	
GENERAL FUND	
Balance—October 1, 1963.....	\$ 128,073.74
Add:	
Excess of income over expenses (Exhibit "C")...\$23,665.24	
Decrease in accounts payable.....	47.95
Increase in bond interest adjustment.....	644.00
	24,357.19
Total.....	\$ 152,430.93
Deduct:	
Decrease in accounts receivable.....	433.78
Balance—September 30, 1964 (Exhibit "A").....	\$ 151,997.15
PLANT FUND	
Balance—October 1, 1963.....	\$ 125,128.08
Charges.....	None
Balance—September 30, 1964 (Exhibit "A").....	\$ 125,128.08

STATEMENT OF INCOME AND EXPENSES

For the Fiscal Year Ended September 30, 1964

EXHIBIT "C"

	Actual	Budget
GROSS INCOME		
Membership dues	\$ 105,814.14	
Interest on savings accounts	1,670.73	
American Medical Association	944.85	
Reprints—Civil War Centennial Issue	129.77	
History of Medicine in Virginia	176.00	
Virginia Medical Monthly:		
Advertising	\$ 22,829.54	
Subscriptions—Nonmembers	376.64	
	<u>23,206.18</u>	
Total	\$ 131,941.67	
EXPENSES		
Executive office:		
Salaries	\$ 34,418.70	\$ 36,390.00
Telephone and telegraph	1,535.89	1,500.00
Postage	2,063.85	3,000.00
Stationery and supplies	1,685.59	2,000.00
Office equipment—Repairs and replacements	572.44	700.00
Building maintenance and repairs—Net	4,144.01	6,000.00
Convention expense	(1,075.47)	1,000.00
Council and committee expense	2,077.60	1,600.00
Executive assistant—Travel	183.03	275.00
Delegates to American Medical Association	3,017.10	2,600.00
President's expense		1,000.00
Travel expense	1,716.65	2,000.00
Preparation and distribution of medical journal	28,497.42	35,000.00
Scientific exhibits	3,410.00	3,000.00
Legal expense	5,844.35	4,000.00
Walter Reed Commission	498.18	500.00
Woman's Auxiliary	15.00	100.00
Membership dues—Affiliated agencies	525.00	215.00
Editor—Virginia Medical Monthly	600.00	600.00
Special appropriations:		
Virginia Council Health and Medical Care	3,000.00	3,000.00
American Medical Education Foundation	2,000.00	2,000.00
Student loan—American Medical Association	1,000.00	1,000.00
National Society Medical Research	150.00	150.00
Rural Health	500.00	500.00
Scholarship—Medical College of Virginia	1,000.00	1,000.00
Scholarship—University of Virginia	1,000.00	1,000.00
Joint Committee Health Care for the Aged	125.00	125.00
Virginia Medical Political Action Committee	2,000.00	2,000.00
Other special appropriations	395.33	1,500.00
News and views	437.50	5,000.00
Employees' retirement fund	4,613.03	4,600.00
Social security taxes	713.85	750.00
Miscellaneous	697.96	600.00
Total—Executive Office	\$ 107,362.01	\$ 124,705.00
Public relations department:		
Conference expense	\$ 854.42	\$ 1,000.00
Radio and press		100.00
Literature and bulletins	60.00	150.00
Miscellaneous		300.00
Total—Public Relations Department	\$ 914.42	\$ 1,550.00
Total Expenses	\$ 108,276.43	\$ 126,255.00
Excess of Operating Income Over Operating Expenses (Exhibit "B")	\$ 23,665.24	

FINANCIAL CONDITION

The financial condition of the Society at September 30, 1964, is shown in the Balance Sheet, Exhibit "A", on the accrual basis of accounting. A comparative summary of the financial condition at September 30, 1964, and the two preceding years is presented as follows:

	SEPTEMBER 30,		
	1964	1963	1962
ASSETS			
Cash.....	\$ 129,173.67	\$ 105,508.43	\$ 65,148.69
Accounts receivable.....	4,575.00	5,008.78	5,052.97
Investments.....	20,579.00	19,935.00	22,309.50
Land, buildings and equipment.....	125,128.08	125,128.08	125,128.08
Totals—All Funds.....	<u>\$ 279,455.75</u>	<u>\$ 255,580.29</u>	<u>\$ 217,639.24</u>
LIABILITIES, SURPLUS AND FUND BALANCE			
Liabilities:			
Accounts payable.....	\$ 2,330.52	\$ 2,378.47	\$ 3,300.00
Surplus:			
General fund.....	151,997.15	128,073.74	89,211.16
Fund balance:			
Plant fund.....	125,128.08	125,128.08	125,128.08
Totals—All Funds.....	<u>\$ 279,455.75</u>	<u>\$ 255,580.29</u>	<u>\$ 217,639.24</u>

CASH—\$129,173.67

Recorded cash receipts were accounted for by deposits in the banks and disbursements were supported by properly signed and endorsed cancelled checks. The balances on deposit at September 30, 1964, were verified by direct correspondence with the banks as follows:

First and Merchants National Bank—Checking account.....	\$ 84,457.00
Bank of Virginia—Savings account.....	9,842.46
Southern Bank and Trust Company—Savings account.....	1,367.32
Franklin Federal Savings and Loan Association—Savings account.....	13,794.10
Richmond Federal Savings and Loan Association—Savings account.....	19,712.79
Total.....	<u>\$ 129,173.67</u>

INVESTMENTS—\$20,579.00

United States Savings Bonds, as shown in Schedule 1, were verified by inspection of the securities held in a safe deposit box at First and Merchants National Bank, Richmond, Virginia. They are shown in the balance sheet at their current redemption value.

PLANT FUND ASSETS—\$125,128.08

Details of the plant fund assets are shown in Schedule 2. No indebtedness against these assets was disclosed by the books.

OPERATIONS

The income and expenses for the fiscal year ended September 30, 1964, are shown in Exhibit "C", prepared on the cash receipts and disbursements basis. A summary of income and expenses for the current year are compared with that of the two preceding years as follows:

	FISCAL YEAR ENDED SEPTEMBER 30,		
	1964	1963	1962
INCOME			
Membership dues.....	\$105,814.14	\$ 99,111.00	\$ 63,734.75
Medical monthly publication.....	23,206.18	28,046.95	31,106.86
Other operating income.....	2,921.35	3,518.65	2,369.15
Totals.....	<u>\$131,941.67</u>	<u>\$130,676.60</u>	<u>\$ 97,210.76</u>
EXPENSES			
Executive office.....	\$107,362.01	\$ 91,560.18	\$113,120.05
Public relations department.....	914.42	976.68	142.69
Totals.....	<u>\$108,276.43</u>	<u>\$ 92,536.86</u>	<u>\$113,262.74</u>
Operating Income Over (Under) Expenses.....	<u>\$ 23,665.24</u>	<u>\$ 38,139.74</u>	<u>(\$ 16,051.98)</u>

PLANT FUND ASSETS

September 30, 1964

SCHEDULE 2

LAND AND BUILDINGS—At cost		
4205 Dover Road, Windsor Farms, Richmond, Va.:		
Land.....	\$22 706.58	
Office buildings.....	86,161.68	
Furnishings and decorations	2,205.41	
		\$ 111,073.67
Walter Reed House, Belroi, Va.		1,000.00
Total Land and Buildings		\$ 112,073.67
OFFICE FURNITURE AND EQUIPMENT		
Estimated insurable value at October 1, 1950.....	\$ 5,353.11	
Purchased subsequent to October 1, 1950:		
Cost during fiscal year ended September 30, 1951	\$ 951.65	
Cost during fiscal year ended September 30, 1959	6,749.65	
		7 701.30
Total Office Furniture and Equipment.....		\$ 13,054.41
Total Plant Fund Assets (Exhibit "A").....		\$ 125,128.08

IN GENERAL

The bookkeeping records were found to have been kept in a satisfactory manner.

Insurance in force at September 30, 1964, determined from policies on file, is shown below:

FIRE AND EXTENDED COVERAGE

Building—Windsor Farms, Richmond, Va.—80% Coinsurance.....	\$ 72,000.00
Office furniture and fixtures—80% Co-insurance.....	15,000.00
Walter Reed House, Belroi, Va.....	2,000.00

LIABILITY—OWNER'S, LANDLORD'S AND TENANT'S

Bodily injury.....	\$100,000.00—\$ 300,000.00
Property damage.....	25,000.00
Medical.....	250.00— 10,000.00

AUTO LIABILITY—NONOWNERSHIP

Bodily injury.....	\$100,000.00—\$ 300,000.00
Property damage.....	25,000.00

EMPLOYEE HONESTY BONDS

Executive Secretary-Treasurer.....	\$ 5,000.00
Secretary.....	5,000.00

ALL RISK—CAMERA FLOATER.....	\$ 200.00
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INVESTMENT BONDS

September 30, 1964

SCHEDULE 1

Bonds	Series	No. Bonds	Dated	Due	Value at Maturity	Cost	Value at 9-30-63	Value at 9-30-64
U. S. Savings	J	13	5-1-55	5-1-67	\$ 6,500.00	\$ 4,680.00	\$ 5,707.00	\$ 5,889.00
U. S. Savings	J	11	12-1-55	12-1-67	11,000.00	7,920.00	9,504.00	9,812.00
U. S. Savings	J	1	12-1-55	12-1-67	500.00	360.00	432.00	446.00
U. S. Savings	J	1	1-1-56	1-1-68	1,000.00	720.00	864.00	892.00
U. S. Savings	J	2	2-1-56	2-1-68	2,000.00	1,440.00	1,728.00	1,784.00
U. S. Savings	J	2	7-1-56	7-1-68	2,000.00	1,440.00	1,700.00	1,756.00
Total					\$23,000.00	\$16,560.00	\$19,935.00	\$20,579.00

(Exhibit "A")

Woman's Auxiliary . . .

President ----- MRS. W. NASH THOMPSON, Stuart
President-Elect ----- MRS. GEORGE W. KELLY, Pulaski
First Vice-President ----- MRS. C. SHERRILL ARMENTROUT,
Harrisonburg
Second Vice-President ----- MRS. T. E. SMITH, Hayes
Third Vice-President ----- MRS. F. PRESTON TITUS, Alexandria
Recording Secretary ----- MRS. WILLIAM J. REARDON, McLean
Corresponding Secretary ----- MRS. DRAKE PRITCHETT,
Danville
Treasurer ----- MRS. ROBERT H. MITCHELL, Arlington
Parliamentarian ----- MRS. T. N. HUNNICUTT, JR., Tabb



New President.

Mrs. William Nash Thompson, Stuart, was installed October 12th as President of the Woman's Auxiliary to The Medical Society of Virginia at its 42nd annual convention, which convened in Norfolk, October 11-14.

Mrs. Thompson was installed at a lovely luncheon in the Golden Triangle Golden Key Club by Mrs. William H. Evans of Youngstown, Ohio, President of the Woman's Auxiliary to the American Medical Association, and immediately launched what promises to be an active year—presiding at a post-convention Board Meeting on the same day and at a post-convention Work Shop for the State Officers and officers of local auxiliaries the following day. The work, however, will not be new to Mrs. Thompson,

for following her unanimous election and installation as President-Elect of the Auxiliary in Roanoke a year ago, she traveled extensively over Virginia and many other States with the out-going President, Mrs. James Moss of Alexandria, attending many regional and national meetings and serving with distinction on a number of programs.

Mrs. Thompson was Miss Opal Ingram of King, North Carolina, prior to her marriage to Dr. W. Nash Thompson. She is well fitted to assume leadership of the highest office in the Auxiliary, for as wife of a general practitioner of many years, and she, a graduate nurse of Martin Memorial Hospital, Mt. Airy, North Carolina, her heart is consequently keenly attuned to the many facets of the medical profession and is most enthusiastic in the Society's activities and goals. One of her biggest assets, however, is the rare ability she has in her daily life of losing a sense of self in her concern for, and kindness and devotion to others, in all wakes of life. She is well known throughout the town and county for her active support of all worthwhile projects and charitable organizations. She is a member of Stuart Baptist Church, where she is Chairman of the Reviewing Council for the Girls' Auxiliary, and Superintendent of the Cradle Roll Department. She is also Vice-chairman of Patrick County Red Cross Chapter, Co-chairman of the Red Cross Blood Program in Patrick, Past President of Stuart Book Club, Stuart Garden Club, Stuart P. T. A., and was the first Worthy Matron of Stuart Chapter O. E. S.

Dr. and Mrs. Thompson have four children: Carolyn T. Williams of Stuart, Joan T. Conway of Jennings, Mo., William Nash Thompson, Jr., a Stuart Pharmacist, and Murray Amos Thompson, a Stuart High School Senior.

With the slogan: "Better Health—A Better World," which the Auxiliary adopted

this year, ever before them, the new President feels the efforts of all members will be united to attain this goal.

Presidential Remarks.

To greet each of you as your new president is an honor and privilege only you can bestow on a member. May I thank each of you for your confidence in me. Every member plays a vital part in our auxiliary.

The membership of The Medical Society of Virginia is over double the membership of our auxiliary. We must join hands with our doctor husbands and close this gap. Help them preserve and enhance the heritage of American Medicine. Then we can accomplish great things.

To each doctor, life is precious—whether it be rich or poor, young or old. To save life, to make life whole, to heal, and to make life better—this is their task. May we as doctors' wives have a strong faith, warm hearts, keen minds and willing hands to help them mold a finer world for all people. A happiness we have never known. To have a peace on this earth we must live our motto—Better Health, Better World. May I repeat a little prayer to guide me on my journey this year as your president:

Lord, thou knowest better than I know. Keep me from the fatal habit of thinking I must say something on every subject and every occasion. Release me from the craving to straighten out everybody's affairs. Make me thoughtful but not moody, helpful but not bossy. Keep my mind free from endless details. Give wings to get to the point. Seal my lips on my own problems and

woes. When my memory seems to clash with the memory of others, teach me the glorious lesson that I may be mistaken. Give me the ability to see good things in unexpected places and talents in unexpected people—and give me, Lord, the grace to tell them so. Do guide each of us in our year's work. Help us to do our best. Amen.

DIRECTORS

- Mrs. James M. Moss, Alexandria
- Mrs. A. Broadus Gravatt, Jr., Kilmarnock
- Mrs. F. Clyde Bedsaul, Floyd

ADVISORY COUNCIL

- Dr. Walter A. Porter, Hillsville
- Dr. James M. Moss, Alexandria
- Dr. W. Nash Thompson, Stuart

COMMITTEE CHAIRMEN

- A.M.A.E.R.F.*.....Mrs. Malcolm Harris, West Point
- Chaplain*.....Mrs. John R. St. George, Portsmouth
- Community Service*.....Mrs. William Gibb, Norfolk
- Disaster Preparedness (Safety)*
Mrs. John E. Prominski, Arlington
- Finance*.....Mrs. Walter Porter, Hillsville
- Health Careers*.....Mrs. Michael A. Puzak, Arlington
- Historian*.....Mrs. Byron T. Eberly, Portsmouth
- Leigh-Hodges-Wright Memorial Fund*
Mrs. Edward S. Ray, Richmond
- Legislation*.....Mrs. Richard E. Palmer, Alexander
- Membership and Organization*
Mrs. George W. Kelly, Pulaski
- Members-At-Large*.....Mrs. Edwin T. McNamee, Stuart
- Nominating*.....Mrs. James M. Moss, Alexandria
- Philanthropic Fund*
Mrs. L. Benjamin Sheppard, Richmond
- Program*.....Mrs. C. Sherrill Armentrout, Harrisonburg
- Publications*.....Mrs. Walter A. Porter, Hillsville
- Revisions*.....Mrs. Kalford W. Howard, Portsmouth
- Rural Health*.....Mrs. Lewis K. Ingram, Norton
- Student Loan*.....Mrs. Lee S. Liggan, Irvington
- Disaster Preparedness*
Mrs. Francis H. McGovern, Danville
- Mental Health*.....Mrs. Cam Nuckols, South Hill
- International Health Activities*
Mrs. Ivan V. Magal, Stuart

"A Good Doctor"

EVERY PATIENT desires and deserves "a *good* doctor". Established patients are convinced that their physician is "a *good* doctor". When patients move to a new area they usually ask, "Give me the name of a *good* doctor". Their established physician finds a name in a directory and says "He is a *good* doctor". The AMA directory might have been used, but it could have been the directory of a speciality society, a medical alumni association or Veterans of World War II. In the new community the patient can get the name of one or more "*good* doctors" from the medical society, a telephone answering service, the Chamber of Commerce, the druggist or a neighbor. Each will pick the name from his own list.

If there are "*good* doctors" there also must be "*bad* doctors", and yet where are "the *bad* doctors"? In the past twenty-five years I have known several thousand physicians personally and I have yet to know a single "*bad* doctor". Every physician that I have ever met is dedicated to doing the best possible job for each individual patient. Anyone who does this is "a *good* doctor". Physicians, like all other humans, have individual and often irreversible faults. Errors of observation and of judgment have been made by physicians since antiquity. These errors still occur in this computer age and will be with us always. No one purposely makes the same mistake twice, yet the history books are filled with examples of this human frailty. A physician may give good care to his patients at the same time that he is violating a law of the hospital staff, the motor vehicles department or the Internal Revenue Service. We do not condone his violation but this action does not necessarily make him "a *bad* doctor". Variations in codes of behavior must be anticipated in a free society.

Every physician has made a conscientious effort to be "a *good* doctor". He has tried to learn as much as possible and has tried to avoid his previous errors. As the result of extra work he has received such status symbols as board certifications, hospital appointments and medical society offices. He may unconsciously imply that those who possess the same status symbols are "*good* doctors" and those without these are "*bad* doctors". Whether or not a physician is on some prestige list does not mean that he is either "a *good* doctor" or "a *bad* doctor". Physicians who are more skilled in one field are usually less skilled in another.

The implied concept of "a *bad* doctor" is harmful to the image of the entire medical profession. It can be largely corrected by the elimination of the term "a *good* doctor". The use of more descriptive and precise phrases to describe desirable traits in a fellow physician will help correct this careless habit.

JAMES M. MOSS, M.D.

Who Should Treat the Sick?

THE SEPTEMBER ISSUE of the JAMA contained a commencement address by Dr. Dana W. Atchley, delivered last June on the occasion of the graduation of a class of physicians from the Washington University School of Medicine in St. Louis. Dr. Atchley is Emeritus Professor of Clinical Medicine, Columbia University, College of Physicians and Surgeons. His address was entitled "Tuning this Curious Harp", a phrase borrowed from Francis Bacon, who used it to describe the human body and the need to keep the mechanism in perfect harmony.

The title is provocative and the address was scholarly. Dr. Atchley contrasted the benighted state of medical knowledge a century ago with our present state of understanding. He also had kind words to say about the specialty of internal medicine, which is understandable, for as he pointed out "only internal medicine assumes the responsibility of the total individual," and besides Dr. Atchley himself is an ornament to this particular field of medicine.

All of this is commendable but when he attempted to answer the question as to how the scientifically trained physician can best act as a healer without losing rapport with his patient he stated we find ourselves in a controversy. It seems the villains in this debate are the general practitioners, whom he terms the "jack-of-all-trades doctors" and who, he feels, can give the patient little more than sympathy. On the other hand, it appears the hero is the scientist, despite the possibility he may be chilly and somewhat preoccupied with his own field. He does have a little uneasiness about these latter traits, for he states "the occasional academic clinician, to whom the care of the patient is an unpleasant distraction from his research, bears some responsibility for the myth of the cold-blooded scientist."

It appears from this distance that he has set up a pair of straw men—certainly his description of the general practitioner does not resemble the generalist who practices in the Virginia area. Perhaps he has been exposed to a different type of general practitioner in New York. Be that as it may, it is unfortunate that the general practitioner was down-graded in an address to a graduating class of medical students and even more regrettable that this address was published in the JAMA. Rural areas all over the country are having difficulty in persuading recent graduates to forego specialty training and engage in general practice beyond the confines of cities. Unquestionably this task will be made more difficult if the thoughts expressed in Dr. Atchley's address are given wide circulation among young physicians who are trying to decide whether to specialize or go into general practice.

H. J. WARTHEN, M.D.

New Members.

The following new members were received into The Medical Society of Virginia in the month of October:

Ronald J. Bortnick, M.D., Alexandria
Francis Gregory Burns, Jr., M.D.,
Virginia Beach
John Vinto Clift, M.D., Vienna
William M. T. Forrester, M.D., Richmond
William Marion Hoffler, Jr., M.D.,
Suffolk
Martin Lerner, M.D., Norfolk
Cesare Luccioli, M.D., Annandale
Giuseppe Passantino, M.D., Danville
William Fennell Peach, Jr., M.D.,
Newport News
William Ferguson Reid, M.D., Richmond
William Edwin Reish, M.D.,
Harrisonburg
Melville Parker Roberts, Jr., M.D.,
Charlottesville
Richard Lawrence Sallade, M.D.,
Newport News
Frederick C. Sturmer, Jr., M.D.
South Hill
Robert Haldane Syme, Jr., M.D.,
Alexandria
Constancio C. Tan, M.D., Hampton
William Gentry Thurman, M.D.,
Charlottesville
Rufus Hawkins Warren, M.D.,
Petersburg

Dr. Jennings Receives Robins Award.

Dr. Thomas H. Jennings, Bedford, was the 1964 recipient of the Robins Award for community service. This was presented him at the annual meeting of The Medical Society of Virginia in Norfolk. In addition to a large practice Dr. Jennings has taken an active part in professional and community fields. He has served as president of the Bedford County Medical Society, a director of the Blue Ridge Academy of Gen-

eral Practice and chief of staff of the Bedford County Memorial Hospital. Dr. Jennings is president of the Bedford County Chamber of Commerce and is a member and past president of the Bedford Rotary Club. He served as chairman of the Oral Polio Vaccine Program in the County, is active in Boy Scout Work and is a past president of the Bedford County Fish and Game Association. Dr. Jennings and his wife, Eileen, who is also an M.D., have three children and are members of the Bedford Baptist Church.

This is the second Robins Award in Virginia, the first having been presented Dr. John Wyatt Davis, Jr., Lynchburg, in 1963.

Dr. John Wyatt Davis, Jr.,

Lynchburg, has been elected as medical advisor to the American Association of Medical Assistants. He will serve a three-year term.

The Virginia Pediatric Society

Will hold its annual meeting at the Greenbrier Hotel, White Sulphur Springs, February 26-28. Guest speakers will be Dr. Wolf Zuelzer, Director of the Child Research Center of Michigan; Dr. Robert A. Aldrich, Director of the National Institute of Child Health and Human Development; and Dr. Barton Childs, Professor of Pediatrics, Johns Hopkins University.

Dr. William J. Hagood

Clover, has been elected president of the Baptist General Association of Virginia.

Dr. Paul Kiser Candler,

Recently of Warrenton, has assumed a position on the staff of the Veterans Administration Hospital in Salem.

Dr. Robert J. Fauleoner,

Norfolk, has been elected president of the

Virginia Division of the American Cancer Society.

The Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, will hold its thirty-eighth Annual Spring Congress, April 5-9.

Anesthesiologist,

Ten years experience in large city group, desires relocation to small community. Training received at well known New England clinic. Reply to #35, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

G. P. Associate Wanted.

Thirty-seven year old, white, well estab-

lished general practitioner wants young general practitioner as associate in city of Virginia. No obstetrics. Salary the first year, during trial period. New, large, modern office. Write #10, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

G. P. Partner Wanted

To join two other general practitioners doing rural practice in Southwest Virginia. Hospital privileges in three hospitals and medical directors for a new nursing home. An opportunity to do a family practice in a beautiful community with a stable economy and with an income greater than the national average. Write #15, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituary

Dr. Edward Julian Moseley, Jr.,

Richmond, died October 9th, at the age of ninety. He was a graduate of the former University College of Medicine, Richmond, in 1896, and had practiced in Richmond for fifty-eight years. Dr. Moseley retired in 1954. He had been a member of The Medical Society of Virginia for sixty-seven years.

His wife and two sons survive him.

Dr. John Bonney Shipp,

Retired Norfolk physician, died November 1st, at the age of ninety. He had been living in Arlington and Falls Church for the past couple of years. Dr. Shipp was a native of Princess Anne County and moved to Norfolk in 1899. He was a graduate of the Medical College of Virginia in 1903. He was formerly a member of the staffs of DePaul and Norfolk General Hospitals. Dr. Shipp had been a member of The Medical Society of Virginia for sixty years.

Two sons, Colonel John Bonney Shipp,

Jr., McLean, and Dr. George Oscar Shipp, Virginia Beach, survive him.

Dr. Howard Lysle Mitchell,

Lexington, died October 22nd of a heart attack. He was seventy-one years of age and a graduate of the Medical College of Virginia in 1920. Dr. Mitchell specialized in diseases of the eye, ear, nose and throat. He was a past president of the Lexington Kiwanis Club and was recently presented a "Legion of Honor" award for thirty years of active membership. He was also a past president of the Lexington Chamber of Commerce, and a member of the Masonic Lodge. Dr. Mitchell had been a member of The Medical Society of Virginia for forty-two years.

His wife and a son survive him.

Dr. John Robert Massie, Jr.,

Richmond, died November 6th following a heart attack while on vacation at Ever-

glades, Florida. He was fifty-five years of age and a graduate of the Medical College of Virginia in 1934. At the time of his death, Dr. Massie was president of the Richmond Academy of Medicine and the Alumni Association of the Medical College of Virginia. He was vice-president of the Southern Surgical Association and a past president of the Richmond Surgical and Gynecological Society, and a member of several other medical organizations. He was a member of The Medical Society of Virginia, having joined in 1937.

Dr. Massie was associate professor of clinical surgery at his alma mater, a consulting surgeon at McGuire VA Hospital, and a member of the staff of St. Luke's Hospital. He had been at St. Luke's since his return from service in World War II when he served as a Captain in the Army Medical Corps with Base Hospital 45.

An editorial in the Richmond Times-Dispatch stated that "Dr. Massie was, indeed, an exemplar of the qualities of which St. Paul wrote in his moving tribute to 'Luke, the beloved physician'." His death "served to remind us that such selfless and devoted members of the medical profession too often neglect their own health in looking after that of their patients."

His wife and two daughters survive him.

Dr. William Hughes Evans,

Richmond, died November 2nd, at the age of fifty-two. He was a graduate of the Medical College of Virginia in 1936 and began the practice of obstetrics and gynecology in Richmond in 1939. Dr. Evans had been a member of The Medical Society of Virginia for twenty-five years.

His wife and a son survive him.

Dr. Sutton.

Having been closely associated with him for a number of years, we wish to pay tribute to the memory of Dr. Lee Edwards Sutton, Jr. The news of his death on June 24, 1964, had been expected hourly for days, yet it brought deep sadness and a feeling of honor and respect for this dedicated physician. We

knew him as a gentleman and respected teacher of medicine.

Born December 9, 1891, in Richmond, he was the son of Ella Wagner and Lee Edwards Sutton. He received his B.S. degree from Virginia Polytechnic Institute in 1914, and his M.D. Degree from Harvard Medical School in 1921.

After post-graduate study at Vienna University 1923-24, he had residency training at Roosevelt Hospital in New York and at Boston City Hospital. He was assistant in pediatrics at Harvard Medical School until he came to the Medical College of Virginia as associate in pediatrics 1928. He served as assistant professor of pediatrics 1930-32, and associate professor 1932-38. In 1932 he became Dean of the Medical School and acted in this capacity for ten years. Appointed Chairman and Professor of the Department of Pediatrics in 1938, he retained this position until retirement in 1958. He was appointed Emeritus Professor of Pediatrics in 1962.

Dr. Sutton was pediatricist in Chief of the Crippled Children's Hospital 1938-42 and a member of the board of directors of Children's Memorial Clinic since 1929, serving as President of the Board 1933-35.

He was also active in many professional groups, including the Richmond Academy of Medicine, The Medical Society of Virginia, Virginia Academy of Science, Southern Medical Association, Richmond and Virginia Pediatric Societies, Mental Hygienic Society of Virginia, American Medical Association, American Academy of Pediatrics, American College of Physicians and Alpha Omega Alpha.

First of all a gentleman, Dr. Sutton was quiet and modest but tremendously effective in carrying out the heavy responsibilities he shouldered at the Medical College of Virginia. This was especially true in those early days when the institution was poor in appropriations and endowments. A testimonial dinner was given him by his former residents in 1953 in honor of his twenty-five years as teacher of pediatrics. In 1959, former residents presented his portrait to the Medical College of Virginia with a testimonial dinner at the Commonwealth Club. Throughout his period as Chairman of the Department of Pediatrics, Dr. Sutton was known for his ability to attract and train physicians of the highest caliber. His devotion to these physicians, professionally and personally, added strength to the Department. Virginia Polytechnic Institute's highest award, a citation, was given in April 1962, and he was honored by the members of the Virginia Pediatric Society in Williamsburg in March 1963.

Married to Ruth Rogan McClellan, he is survived by his wife and two sons.

In his unassuming way, Dr. Sutton made major contributions to the development of the institution

which he served and it is with profound sorrow that the medical profession records his death.

BE IT RESOLVED that a copy of this tribute be recorded with the Secretary of the Richmond Academy of Medicine and in the minutes of this organization and that a copy be sent to his family and to The Medical Society of Virginia.

J. H. SCHERER, M.D.
CAROLYN M. McCUE, M.D.
WALTER E. BUNDY, JR., M.D.

Dr. Eckles.

The death of Dr. Beverley F. Eckles on June 2nd was a great loss to the Richmond Academy of Medicine.

Dr. Eckles was born in Richmond, August 12, 1890. Shortly afterwards he moved with his family to Nashville, Tennessee, and later to Birmingham, Alabama. He attended the local schools here, but returned to Richmond for his medical education. He graduated from the University College of Medicine in 1913.

After two years' surgical internship at St. Luke's Hospital he became associated with Dr. W. L. Peple in private practice. During World War I they both served on the surgical staff of Base Hospital 45. When the war was over Dr. Eckles resumed his practice in Richmond, and from 1924 to 1928 he was on the staff of McGuire Clinic. He then moved to Galax, where he was in practice until 1954. At that time, after a period of special training in public health work, he became Director of the Public Health Department of Henrico County. He held this position at the time of his death.

Besides being a member of this Academy Dr.

Eckles belonged to The Medical Society of Virginia, the American Medical Association, the American College of Surgeons, the American Association of Public Health and the Virginia Public Health Association. He was also a member and a former president of the Southwestern Virginia Medical Society. He was a former member and one-time president of the Virginia State Board of Medical Examiners.

Before going to Galax in 1928 he was Assistant Professor of Clinical Surgery at the Medical College of Virginia.

In 1925 Dr. Eckles married Miss Annie Gill Dixon of Farmville. Mrs. Eckles died two years ago after a long illness.

They took a prominent part in civic affairs and in the work of The First Presbyterian Church in Galax. Dr. Eckles taught a Bible Class for 15 years and was an elder in the Church for more than 20 years. He was active in the work of the Rotary Club and in the Boy Scouts. For two years he was District Commissioner of that organization. He was also instrumental in bringing the Crippled Children's Clinic to Galax.

His outstanding qualities were kindness, consideration and humility. He had many friends in this Academy and throughout the State. We feel his loss keenly and are grateful for the privilege of having known him.

We wish to extend our sincere sympathy to his family and suggest that this expression of our warm admiration for him be sent to them. Also that a copy be included in the minutes of this meeting and a copy be sent to The Medical Society of Virginia.

WEBSTER P. BARNES, M.D.
MACK I. SHANHOLTZ, M.D.
HUNTER H. MCGUIRE, M.D.

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